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ABERDEEN

ABERDEEN:

TOPOGRAPHICAL, ANTIQUARIAN,
AND HISTORICAL PAPERS ON THE
CITY OF ABERDEEN.

By

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‘The Etymology of the Place-Names of Aberdeenshire,’
written for the Carnegie Trust.

ABERDEEN:

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PREFACE

This volume consists of a series of papers on Aberdeen which were written for a newspaper without any intention of reproducing them in book form. They have been reprinted in compliance with many requests from persons who wished to preserve them. This has been done not very willingly. The papers would have required to be rearranged and condensed in order to convert them into a book. They were written from week to week without any prearranged plan. Some of them described at great length things of little importance and now quite forgotten. This was done when the information given had not been previously published, or was not readily available.

An Index has been prepared, which shows that some papers contained repetitions of what had been written before. Where discrepant statements are made on any matter it may be understood that the second is intended to correct an error in the first, detected when it was printed and could not be changed. Some improvements have been made in the process of revising the papers, but perfection has not been obtained in orthography.

On making Aberdeen my residence some years ago I found that the burns which I had been familiar with fifty years before were lost to sight. In some of these I had gathered freshwater mollusea when in Professor Macgillivray's class in Marischal College, and it was an interesting pastime to visit their fountain heads and trace their underground courses through the city. I next became anxious to know which of the streams connected with the city had given rise to the name Aberdeen. For this purpose I examined many books and wrote down all the forms I could find. I settled, to my own satisfaction at least, that Aberdeen does not mean the town at the mouth of the Dee but the town at the mouth of the Denburn.

At the same time, by request of the Geological Survey Department, I was keeping watch wherever subterranean

or submarine operations were going on, for information about old red sandstone and other rocks underlying the site of the city.

Thinking that what had interested me might interest others also I wrote papers on these subjects and offered them to a newspaper. They were accepted and printed, and more were wanted. From many citizens came encouragement and offers of help, which were afterwards amply made good. The series of papers was continued till the Bridges, Ports, Lochs, Mills, Wells, Water Supplies, Canal, and everything connected with water had been treated of. The history of the Cathedral, Monastic Convents, Churches, and Universities was next taken up; and the series ended with the Harbour and the Railways.

The Topographical and Antiquarian papers necessitated a long study of old records, newspapers, maps, and railway plans; and every detail had to be verified by personal inquiry and minute exploration in the city and the suburbs.

The Historical papers were founded upon the Burgh Records of Aberdeen, the Register of the Great Seal, the Register of the Cathedral, the Chartulary of Saint Nicholas Church, and the Records of the Universities.

The utmost care was taken to secure that the information given should be strictly accurate, and I have to thank very many people who helped in accomplishing this. Some who are now dead gave information which could not be obtained now. When questioning an old gentleman about the Maut Mill Briggie he said he could never forget it for when a boy, in breasting the parapet to get a sight of the mill-burn, he sprang up too far and falling into the burn was carried over the waterwheel of the Maut Mill; but he was rescued by a man who saw his bonnet floating down the burn. Kirsty Davidson, a blind widow almost a centenarian, who kept a small shop in the Bowl Road, as she called Albion Street, described the site of the Banner Mill exactly as it is figured in the Meikle Cairt drawn by James Gordon in 1661. The mill, she said, was set down in a bog, and it was called the Bog Mill. I was curious to know the use of small houses on an island in the bog, shown in the chart, and she was able to tell me that they held sheaves of willow wands which grew in the bog and on the island.

In writing the early history of the Cathedral, it was necessary to examine critically a document in Registrum

Episcopatus, I. 5, titled “Bulla Adriani,” dated 1157. In it, besides the Church of Saint Machar and the Church of Saint Nicholas, there is mentioned the Church of Abbirdein. No place could be found for this church, and I suspected the bull to be a forgery. Cosmo Innes, however, had said in the Registrum (xix. note) that the bull was undeniably authentic, and John Stuart, LL.D., had also said that it was authentic (Exchequer Rolls, I. clxxvi). Experts who were consulted thought there might have been a church somewhere near the Cathedral; but there were other suspicious things in the bull:—a monastery at Mortlach, and another at Clova, the mill of Aberdon, the absurdity of calling the cathedral town old when it was only in its infancy, and of imagining that the Bishop of Aberdon had carried on the business of the diocese for many years, single-handed, without the aid of canons. The style of the Latin, moreover, is not like that of papal bulls. At my wit’s end, I consulted the keeper of Manuscripts in the British Museum. He referred me to a book on bulls and charters by a French author, Giry, which gives the characteristics of forged documents and shows how to discover the motives of their fabrication.

The single word “sororum” in Registrum II. 39, shows that “Statuta Ecclesie Aberdonensis” is a fraud, for St Peter’s Hospital was not a shelter for women but infirm priests (Registrum I. 11). It is preceded by “Statuta Generalia Ecclesie Scoticane,” written in the same style of Latin, and it is probably another fraud. Both pretend to have been written in the thirteenth century, but more likely they were written on the eve of the Reformation with the view of reforming the Church.

I regard as forgeries a series of documents in Registrum (vol. I.) designed to establish the right of the bishops of Aberdon to second tithes falling to the Crown. They are given in the Appendix to the Preface to vol. I. of the Exchequer Rolls, the editors of which thought they were authentic. Some of these documents are in the form of Acts of Parliament and were imported by Cosmo Innes into the edition of the Acts of the Parliaments of Scotland which he prepared for the Crown. One of them (Registrum I. 44) makes Robert I. order his Chamberlain and his Justiciar to pay annually to Bishop Henry Cheyne and his successors the Crown’s second tithes in Aberdeen. Though they were threatened, by the Act, with forfeiture if they neglected the king’s

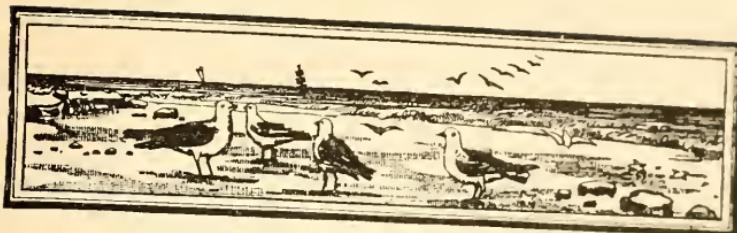
command the Exchequer Rolls show no payment made for ten years. Then there is an entry of a payment to the bishop for second tithes, which was not to be continued to his successors.

These second tithes forged documents deceived not only Cosmo Innes, Dr John Stuart and George Burnett in the last century, but also a careful discriminating writer—Bishop Dowden—in the present. (See “Medieval Church in Scotland,” pp. 59, 175, 177).

A critical examination of all the documents in the Registrum is needed; and it should be done in Aberdeen. It was local knowledge of the city and county which rendered it impossible for me to believe that the bull attributed to Adrian IV. was authentic. The University is the daughter of the Cathedral, and it would be a pious office on the part of the University to render this service to the memory of its Alma Mater. A commission consisting of three Professors skilled in Latin, Law, and Church History would find no difficulty in detecting and stigmatising documents highly suspicious or palpably false.

The design on the cover of the book was engraved from a drawing by Mr Alexander J. Murray, Architect, Aberdeen. It is intended to be a correct representation of the armorial bearings of Aberdeen, assumed when it became a burgh and was provided with a castle for its defence. The city arms were described by the Lyon King of Arms in 1674 as being three towers, triple towered. Two very different representations of this blazon have been issued from the Lyon’s office. Neither is correct. The older represents three towers, double towered, and the more recent represents three towers with three turrets on the top of each tower. I think each of the three towers should show three battlements with crenellated walls, indicating that the castles were capable of being defended by a great number of men. The words of the blazon are the only guide to a correct representation of a coat of arms granted in the Lyon’s court, and every person is entitled, subject to a court of law, to interpret the blazon for himself.

J. M.



ABERDEEN

NAMES.

ABERDON AND ABERDEN.

THE name Aberdeen is applied to two towns, one on the river Don and one on the river Dee. They are now amalgamated under one name, but formerly they were distinguished as Old Aberdeen and New Aberdeen (or simply Aberdeen). This suggests several questions, such as:—Which of the towns is the older? Should they have the same name with a distinctive prefix for one, or should they have entirely different names seeing they are on different rivers? How does a town on the Don have a name so inappropriate as Aberdeen? How does the name of the town end in a letter not in the river name from which it is supposed to come?

In order to settle these and other questions many books were examined, but no clear conclusions could be arrived at. Including Norse, Gaelic, Latin, and English there is at least a score of different forms of the name, and they seemed to be used promiscuously. Then the examination was restricted to the burgh and ecclesiastical records of the two towns, written by permanent officials familiar with the local spelling of the names and likely to have some set usage. For this purpose four books were searched:—Innes's *Registrum Episcopatus Aberdonensis*, Munro's *Records of Old Aberdeen*, Cooper's *Chartulary of St Nicholas*, and Anderson's *Charters relating to the Burgh of Aberdeen*. Every occurrence of the episcopal city near

the Don and the burgh town near the Dee, and also of the rivers Don and Dee and the Denburn, was tabulated in chronological order from the earliest mention, about 1100, down to 1700. Papal bulls, royal charters, and documents written by persons not residing in either of the towns were disregarded. So also were the translations from Latin into English made by the editors of the books, for they uniformly made the names of both towns Aberdeen in English. This landed one of them in a difficulty in dealing with a charter signed at both towns on the same day, in which the names were given differently:—“Apud Aberdoniam et Aberdene,” (Chartulary of St Nicholas, II. 308). This method cleared up all doubts and removed every difficulty; but it was found that uniformity ceased soon after 1500, in consequence of the promulgation of royal charters in which incorrect forms were used.

The tabulated lists showed that for the northern town the normal form of its name down to 1500 was Aberdon, with variants caused by doubling “b” or “n” and changing “e” into “i” or adding a final “e.” The Latin form was Aberdonia, from which the adjective Aberdonensis was formed. Aberdonia was not often found because the title of the Bishop was always Episcopus Aberdonensis, the Bishop of Aberdeen. Most bishops’ titles are in the adjectival form.

The southern city had for its normal name at first Aberdeen, afterwards rather more frequently Aberdene, with variants similar to those for Aberdon. Sometimes the last part was deyn. The Latin form Aberdene was found once. In a book called “Sum Notabill Things” another form, Aberdenia, is found, and also Aberdenensis, used by the Principal of Marischal College. Aberdonia and Aberdonensis occur applied to the southern town by mistake. The Latin for “of Aberdeen” was nearly uniformly “de Aberden,” which prevented the frequent use of the adjectival form.

The names of the streams were found to be Don, Done, and Donne; Dee, De, and Die; Den, Denn, Dene and Deyn.

Aberdon clearly comes from Gaelic aber, the outflow of a river into another or into the sea, and Don, a river name meaning brown. Aber also means the outflow of a lake into a river, as in Lochaber, where Loch Lochy discharges into the river Lochy; sometimes it means a ferry or a ford, as in Abernethy, in Perth, and Kinnaber near the

mouth of the North Esk. It is not unlikely that Aberdon had been first applied to a place nearer the mouth of the Don than the Cathedral is.

Aberden is the influx of the burn of the Den into the Dee or into the sea, for by Gordon's map, 1661, the outfall of the Denburn into the Dee was very near the mouth of the river, and probably it had been so always before it was interfered with by man. Gordon thought that Aberdeen took its name from the river Dee and that it should be Aberdee ; but the original name for the town, Aberdeen, had little resemblance to the name of the river.

The form Aberdeen for Aberdon is first found in a document referring to 1505, and for Aberdeen in one referring to 1504 ; but the documents themselves may be of later date, and at the Reformation in 1560 the common form for both towns was either Aberdene or Aberdein. Aberdeen was not the normal spelling before 1700, and it will be convenient to call both towns by their old names Aberdon and Aberdeen down to the Reformation, which closed the records of the Catholic Cathedral.

The name of the county has always been the same as that of its chief town. The adjective Aberdonensis was not appropriate for the county or for the diocese.*

NEW ABERDEEN.

This name is a mistake. Aberdeen is as ancient as Aberdon. It is seldom found in the four books consulted, but Spalding uses it occasionally in his "Memorials of the Troubles," and Kennedy in his "Annals." It occurs first in 1549, when the confusion of names had begun, and it arose from contrast with Old Aberdeen, which had come into use instead of Old Aberdon. New Aberdeen is not heard of now.

* Gaelic names for Aberdeen are Obair-eathain, for Obair-dheathain ; Obair-raighiunn ; Obair-readhain ; and Obair-da-amhuinu. They are sounded like Aberdeen but they are of no value—mere "fakes" intended to show a name with a meaning, because a good Gaelic name is expected to carry its pedigree on its back. That they are all recent or post-Reformation is shown by their changing Aber, which is in old Gaelic, into Obair, the modern Gaelic for a confluence.

GEOLOGY OF THE SITE OF ABERDEEN.

Collibus tumet—it swells with hills—is Buchanan's brief but apt description of the county of Dumfries. It applies with equal aptitude on a small scale to the site of the city of Aberdeen. It is all heights and hollows; but a thousand years ago, before they were interfered with by man, the heights were higher and the hollows were deeper. In a city the surface is steadily becoming more uniform, and it is always rising. In a map of the city and neighbourhood in 1746 we can count a score of lochs, bogs, and marshes now drained and filled up, and a dozen of burns now mostly covered over and built upon, besides the main rivers Dee and Don. A brief sketch of the geology of the site will account for the inequality of the surface and explain the cause of what is seen when excavations are made for foundations and sewers.

Only three kinds of rocks are seen within the site of Aberdeen:—granite, gneiss, and old red sandstone. Granite is an igneous rock composed of quartz, felspar, and mica; and gneiss is a stratified rock composed of the same minerals, and as a rule it has been made up of the detritus of granite and is therefore the younger of the two; but granite may be formed of gneiss which had been exposed to heat sufficient to remelt it, so that it had been able to crystallise on cooling. So little is seen of these two rocks in Aberdeen that it is difficult to say which of them is the older.

Granite is seen at Rubislaw Quarry, Rubislaw Den, Whitehall Road, Kittybrewster Station, Clifton Road, the Boat-House Brae, and it was found 40 feet below the surface under Golden Square in making a tunnel for sewage. It was found in a bore made at Bon-Accord Distillery, and in a bore 700 feet deep made in Charles Court, Upperkirkgate, to find a supply of pure water for dyeing. The granite in Aberdeen is part of a large area extending to Cothal Mills on the north-west, and its boundary in and near the city may be given as passing through Gordon's Mills on the Don, the Bishop's Loch, the lowest part of the Brae Road and of Bedford Road, the hollow between Sunnyside and Spital Hill, the base of the Gallowgate ridge, North Street, King Street, Union Street, the railway to Millburn Street,

Ferryhill Road, Fonthill Road, Nellfield Place, Kepplestone, and Oldmill.

Gneiss is seen on both sides of the Don at Balgownie Bridge and on both sides of 'e Dee at Wellington Bridge. It was found in making a sewer through Duthie Park. It appears in the cliff on the south side of the Dee below the railway bridge, and wherever rock is seen from St Fittick's Road round by the Girdleness to the Bay of Nigg. It is dredged up in the navigation channel at the mouth of the Dee. All outside the granite area is reckoned gneiss. The Lighthouse at Girdleness is built of gneiss taken from a quarry near the Penstock House.

Old red sandstone occurs in various detached portions overlying the granite and the gneiss. Without any doubt these had been more extensive, and perhaps connected, till the glacial epoch, when they were abraded and in many places entirely removed. It is seen beneath a raised sea beach on the south bank of the Don between the bridges. At the Brewery near King's College, 50 feet above sea, a bore six inches in diameter was sunk for water, which was found at 150 feet and came up bright red to within a few feet of the surface, and it was believed that old red sandstone had been reached. In Lemon Street, at a low level, a bore was sunk 105 feet and penetrated into old red sandstone a few feet. At Sandilands Chemical Works, at a low level a bore was sunk 500 feet, the last 400 in old red sandstone conglomerate. In the Denburn Valley it has been found in various places:—Union Bridge, west side; Theatre, east side, where the Denburn bed was seen to be old red sandstone; Schoolhill railway station; and it was found in the tunnel, east of the Royal Infirmary. In making a sewer in the form of an inverted siphon, to go under the railway tunnel in Hutcheon Street, it was found to extend 40 feet below the surface, and the bottom of the bed was not reached. It was found in Fountainhall Road, between Desswood Place and Beechgrove Terrace, where a boulder half a ton and many smaller blocks were met with in a storm water culvert.

It is believed that old red sandstone was deposited in long, deep, V-shaped hollows formed by folding of the crust of the earth, in which numerous volcanic vents were formed by the stretching of beds of rock. These openings though not large discharged ashes, which coloured the water red that had collected in the hollows. Some of the foldings were very extensive, as, for example, one from Cowie Chapel to St Andrew's Bay, while others

were on a small scale. The Aberdeen patches may have been deposited in the bottom of a fold of their own, or they may have been part of the fold on the south which comes up to Cowie. Another great fold occupied the bed of the Moray Firth and comes as far east as Dundarg Castle on the south side. It might even have extended to Aberdeen.

These three kinds of rocks belong to a very remote period in the earth's geological history. The subsequent phenomena are comparatively recent. In a sewer tunnel passing under St Fittick's Road a deep bed of hard, compact, stony clay containing scratched stones was found. Some pieces of serpentine corresponded with that found in the Coyles of Muick near Ballater, and they probably came from these hills. Similar clay was found in the foundation of the new building at Marischal College, and clay of the same kind was found in a sewer tunnel under Castle Street. Clay of a like character is seen on the south side of the Bay of Nigg. These clays contain stones and large blocks of rock interspersed throughout the mass, but when the finer parts are washed away by the sea the stones and blocks are left in one bed on the shore. These stony clays are referred to a long-continued time of cold, during which the moisture in the air fell as snow and did not melt but accumulated till it was hundreds of feet in thickness. The snow bed crept slowly to the sea, taking with it loose stones and tearing off large blocks of projecting rock, which stuck fast in it and ground the surface of the rocks over which it passed. In some places it scraped the rocks bare; in others it laid down beneath it a constantly increasing stratum of stony clay, interspersed with large boulders. When the snow sheet was at its maximum dimensions it held straight on its course, overriding obstacles. In this way the main part of the snow in the valley of the Dee took the straight course to the sea by the Bay of Nigg, and only a small part followed the winding of the river at Craiglug. In the valley of the Don, when the course of the river became narrow and obstructed at Gordon's Mills, the chief part of the snow stream left the river and found its way to the sea between the Kettle Hills and the Spital Hill.

When the cold time was passing off the great snow cover broke up into long streams, which crept along the low places and excavated U-shaped valleys, such as those at Oldmill, Berryden, and the Denburn, or gorges like that at the Bridge of Balgownie.

At the time of the greatest development of the snow sheet the land seems to have been about as far out of the sea as it is at present. Large masses of rock from Norway are seen on our shores, which must have come over the North Sea when it was filled with ice. There is the Saville boulder in Orkney and the Blaek Dog at the mouth of the Don, and a mass of Laurvigite from Norway was found in the edge of the sea in making the outfall of the City Sewer. The rocks at Girdleness are smoothed down by the passage over them of snow charged with stones and sand. There may be many hollows in the rocks, but the projections have been rubbed off.

The next group of phenomena seen in and around Aberdeen indicates that the land sank deep into the sea and rose again. This is shown by beds of stratified sand, old sea beaches, 400 feet above the sea, in various places in Aberdeen, Banff, and Kincardine, which tell that the land has risen 400 feet. In the city there is an enormous quantity of stratified sand at and under the 200 feet line, which touches the higher parts of Clifton Road on the north and Culz on the south, passing a little east of Rubislaw Quarry. This tells that the land did not rise 400 feet at once, but halted long at 200 feet. During the halt the snow continued to creep into the sea, and the detritus which it carried was sorted and arranged in layers of fine sand near the shore and of clay in deep water. It was when the 200 feet line was the edge of the sea that the sands we see along the Dee as far up as Banchory, and on the Don as far up as Inverurie, were laid down. At this time, too, the fine laminated clays at Torry and Seaton were laid down in deep water. So long as the site of Aberdeen was under water the whole area had been covered by sand—in many places to a great depth but always pretty uniform at the top—with a gradual slope seaward. An extensive area of flat low land on both sides of King Street, and another about Duthie Park and Allenvale Cemetery, indicate that after a long halt at 200 feet the land rose rapidly 150 feet, and then was formed the 50 feet beach. The Green, the Queen's Links, and the flat grounds east of the railway were the work of the sea when the land had risen till it was only 25 feet above the sea.

During the rise from 200 to 50 feet glacial conditions still continued but were passing away. The snow was still entering the sea and was leaving stony clay above the stratified sand in some places. A good example of

this may be seen at the north end of Muchalls Railway Station. But the snow sheet was breaking up and moving in streams and not with an unbroken front. Such hills as the Hermitage Hill and Tillydrone in Old Aberdeen, the Spital Hill, Broad Hill, Gallow Hill, Porthill, Heading Hill, Castle Hill, and St Fittock's Hill in Aberdeen are remnants left of the sand deposited when the sea margin was at 200 feet. The excavations in the Denburn Valley below Jack's Brae, in the Holburn Valley below Justice Mills, in the valley of the Pitmuckston Burn east of Holburn Street, Carnegie's Brae, Berryden, the hollow west of the Spital Hill, the bed of Old Aberdeen Loch—these and others such like were the work of the snow sheet reduced to narrow streams of ice called glaciers. St Catherine's Hill, now gone, stood in Union Street and was higher than the houses then round about. It was composed of layers of fine sand and could be accounted for in no other way than that it was a remnant left of a deposit of sand extending west to near Rubislaw Quarry.

The Loch of Aberdeen had been a hollow in the bed of a glacier from Westburn Valley, which had received additions from Berryden and the howe between Spital and Sunnyside. Its course after passing through the bed of the Loch had been by St Nicholas Street and Carnegie's Brae to the Denburn, and it had helped to form the steep side of St Catherine's Hill on the west.

During the time of snow and ice the Strait of Dover had been sometimes open and sometimes shut—open when the land was deep into the sea and shut when it had risen out of the sea. There is a peculiar kind of porphyry at Buchanness Lighthouse which is easily recognised wherever it is seen. Well-rounded pebbles of it are seen at the mouth of the Ythan, Girdleness, Bay of Nigg, Cove, Muchalls, Bervie Bay, and even as far south as Cambridge, telling of a southward movement of ice along the coast on the way to the Atlantic by the Strait of Dover. On the other hand there is evidence of a northward movement when the land ice was on its way to the Atlantic by the Orkney Isles, the Strait of Dover being dry or shallow. Old red sandstone pebbles from the conglomerate rocks of Kincardine are found in the clays on the south side of the Bay of Nigg, about Girdleness, and all along the east coast as far north as Buchanness. They are easily recognised by their red colour outside and whiter inside, and by crushed spots and cracks radiating from them, which they got by pressing on one another.

during movements of the earth's crust when lying in a bed of conglomerate.

After the 25 feet beach was formed the land had risen again and had not stopped when it attained its present level, but had held on rising. The proof of this is that in deep excavations in the harbour for the foundations of Regent Bridge, and in a deep pit in the sea at the Bathing Station, beds of peat moss were found. These must have been formed after the cold time had passed away and while Aberdeen was farther above the sea level than it is now. After the formation of the moss the land must have sunk till it reached its present level.

At the end of the glacial period the land had everywhere sloped gently to the sea, and the coast line had been farther out than it is now. Since then the sea has been gaining on the land and much of the loose matter carried into it by the snow sheet has been washed away into deep water. On both sides of Stonehaven grassy slopes may be seen suddenly terminating in rocky cliffs which had been at the waterline before the ice period came on. Even the solid rock is wasting away under the powerful action of the sea waves.

When the 25 feet beach was raised to its present level no part of the space between the Tile Burn and the sea had risen much above the level of the sea at high water, but there had been a broad area of dry sand at low tide. A vast amount of sand had in the course of time come down the Don, and it had been washed to the south side of the river mouth in north-east storms. In easterly gales sand had been blown inward from the broad area of dry sand and piled up into the high ridge of sand between the sea and the Tile Burn and the Banstickle Burn, which is no longer visible.

SITUATIONS OF PREHISTORIC SETTLEMENTS.

In forming an opinion whether a place had been the site of a prehistoric hamlet great regard should be paid to the presence or want of a perennial supply of good potable water. Since water is indispensable it is safe to say:—No water, no people. That the prehistoric inhabitants of Scotland lived in communities near good water is known by their graves. They had two modes of interment—one in which a corpse was laid in the ground in a shallow grave, sometimes stone-lined, in the contracted posture in which the person died; another in which the dead body was burned and the ashes were collected and buried. The latter was the more common way—at least it is that of which traces are oftenest seen, though this may be owing to the complete decay, in long lapse of time, of an unburned body and the indestructibility of the fragments of charcoal mixed with the ashes of a body which had been burned. In digging drains and in ploughing the ground a little deeper than usual spots are met with where a small quantity of very black earth is turned up like that seen where a bonfire has been made. Such a spot marks the place where an interment of the ashes of a burned body has been made in a shallow round hole. Sometimes a few stones are found above the ashes; often none. If a long stone could be procured it was set up to mark the grave. In the corner between Dee Street and Langstane Place there is a long stone marking a grave; another at one time stood near Hill Street; and there is a tall monolith marking a grave near Stewart Park. Sometimes the ashes are in an urn inverted and standing on a flat stone. Where one such grave is found there are usually many more. Such burial places are invariably in the vicinity of water suitable for drinking. The ancient people had not the means of conveying water and had to go where it was to be found. Given a warm, sunny spot near a river, a burn, or a lake, with the means of procuring food in the neighbourhood, we may with confidence look there for traces of a prehistoric community.

Another indispensable condition for primitive man was access to the sea in winter. With domestic animals to cultivate the ground in summer and produce food for us

in winter man can maintain life in the interior of Scotland all the year round with comfort; but without cattle and without access to the sea in winter men would have been unable to survive the frequent rigorous winters of Scotland.

Both these essentials for primitive man—proximity to potable water, and convenient access to the sea—were at the command of the early settlers at the mouths of the Don and the Dee.

ABERDON.

The queer name, Canny Sweet Pots, given to pools of fresh water at the head of the Banstickle burn, which was a branch of the Tile burn and within a quarter of a mile of the sea, conveys no meaning to an Englishman's ear; but to a Highlandman the name suggests that there was a primitive settlement of fisher people on the burn, who were supplied with water from deep pools at its source. The name seems to be a compound of the Gaelic words "ceann," head; "na," of the; "suidhe," settlement or residence, either temporary or permanent; and the Scotch word "pots," meaning deep pools of water. We may infer from the name that here landward people came in winter when food grew scarce in the interior, or that there was here a permanent hamlet of fisher people. On Parson Gordon's map, 1661, there is printed beside the Canny Sweet Pots:— "The Reuer of Done is said credibly to have runn through the Loch of Canny Sweets Pott of old and thenee to have turned the streame eastward, entering the sea under the Broad Hill." The nature of the ground—red laminated clay—renders this extremely unlikely. Formerly at high water of equinoctial spring tides the sea covered a large area at the mouth of the Tile burn, but it did not go far up the Banstickle burn. A fisher village at Canny Sweet Pots would have had a good claim to be called Aberdon.

Another place to which this name would have been very appropriate is the ford and ferry below the Bridge of Balgownie, for here, before the bridge was built, all cattle and horses coming from the north to Aberdeen had to wade at the shallow place or swim at the deep, and foot passengers had to be boated across the pool. In the narrative of Sir Alexander Hay's mortification for upholding the Bridge of Balgownie, 1605, its erection is

ascribed to King Robert I., and this may be received as evidence of the importance of this passage over the Don. But the aborigines of the place have left no records for the instruction of their posterity.

ABERDEN.

No place could have been better adapted for being occupied by an uncivilised primitive people than the site of the nucleus of Aberdeen, on a plot of level ground about Shore Brae on the bank of the Denburn, which, after emerging from the valley now spanned by Union Bridge turned east in the line of the modern Guild Street, Trinity Quay, and Virginia Street. The high tide came up to the doors of the inhabitants, and they had the burn for their harbour. They had behind them on the north a high sheltering bank, extending from the Denburn valley along Gaelic Lane, the end of St Nicholas Churchyard, St Nicholas Lane, Carnegie's Brae, Putachieside (now under Market Street), St Catherine's Hill, Castlegate, Castle Hill, and the Heading Hill. Beyond the burn there lay on the south the Inches—a broad expanse of sand and mud brought down by the Dee, forming one side of their harbour; and beyond these flowed the Dee, nearly in its present course—perhaps a little farther south. Around the mouth of the Dee there was good fishing-ground, and the river itself abounded in trout and salmon. The rocky coast south of the Dee yielded an unfailing supply of dulse and shell-fish, important items in the diet of early man.

Recent explorations have carried back civilisation in Egypt and Assyria thousands of years before Christ. Civilisation in Scotland came much later, but thousands of years ago Scotland was as well adapted for being the abode of a primitive people as when civilisation began, and we need have no hesitation in ascribing to the earliest settlement on the bank of the Denburn a very high antiquity.

About the beginning of last century traces of man were found in making excavations in the site of the harbour. A piece of flint, two skulls, and numerous shells were found at 20 feet below sea level. Both the flint and the shells indicate that it is a very long time since the owners of the skulls lived.

If the Romans visited Aberdeen they have left no

trace behind them. Ptolemy's tables of names and longitudes and latitudes are disappointing and give no real useful information on the subject. But Aberdeen was not quite inaccessible before the Bridge of Dee was built. A road from the south, called the Causey of the Cowie Munth, crossed the east end of the Grampians, and, coming down by Kincorth, crossed the Dee by a ford at Pitmuckston, where there seems to be a shelf of rock ground flat by the Dee glacier. There was also a ferry at Craiglug for foot passengers.

ABERDON.

A.D. 1100 TO 1300.

From about 1100 there had probably been a church on or near the site of the present church. There must also have been a priest's manse and a house for the church official, but likely no more. From its situation near the mouth of the Don the place had been called Aberdon; but perhaps there had been an older place of this name near the mouth of the river.

About 1132 Aberdon became the see of a bishop, and its church became a cathedral. This caused two separate communities to spring up, one called the Chanonry, composed of houses for canons and other ecclesiastics, round the cathedral; and another a little farther off, of houses for labourers who tilled the canons' ground, built their houses, and supplied their wants. At first there had been a desire to have in the Chanonry houses of a humble sort which could be speedily erected rather than to have large well-built manses which would have taken years to erect. When affairs had been got into working order at the cathedral and wealth had increased additional canons were appointed from time to time. More residences for these were required and better manses for those hurriedly built at first. There had not been the same reasons for improving the hamlet of Aberdon, and in process of time it had come to look old in comparison with the Chanonry quarter. It is impossible, however, to believe that it could have been called Old Aberdon within a few years of its first beginning and while it was still growing. Throughout the twelfth and thirteenth centuries the name of the cathedral town remained Aberdon, and there is no evidence that it was ever called Old Aberdon before 1300.

OLD ABERDON.

The question of the origin of this name has been perplexed by some charters in the beginning of "Registrum Episcopatus Aberdonensis." Five of these the editor of the Registrum and others have pronounced to be spurious; but of another, pretending to be a bull of Pope Adrian IV. dated 1157, Cosmo Innes wrote:—"A muniment which affords all the materials for testing its authenticity,

and, submitted to all the tests, stands undeniably authentic." (*Registrum*, I. xix.) If this verdict cannot be upset it is impossible to redd up the early history of Aberdon satisfactorily. The same grounds for forming an opinion regarding the bull are open to us as were to Cosmo Innes; and arguments will be afterwards adduced to show that it is a palpable forgery, the work of a man ignorant of the history of the Cathedral. It must have been concocted after 1427. In the meantime it is asserted that the first eight documents in the *Registrum* are spurious. In five of them Aberdon is called "Vetus," old. Now though the documents are not genuine, their authors would not have given the name "Vetus Aberdon" to the cathedral town unless it had at some time borne the name, else their forgeries would not have passed as genuine.

The truth is that the city did bear this name in their time, but not at the dates assigned to the documents. The Cathedral is generally admitted to have been founded in the eighth year of the reign of David I., 1132, and the hamlet of Aberdon which gathered around it cannot be older. Yet the five documents call it "Vetus," old, at the age of 4, 23, 25, 31, and about 33 years respectively. Aberdon could not have been called old in 1157, the false date of Adrian's bull, which is the third of the lot; but it was really called old in 1446, and the bull might have been concocted about this time but not before 1427.

There is some evidence that the town was called "Old" before 1344. By that time the cathedral itself had begun to decay, and in 1379 it was necessary to rebuild the nave. In 1392 the Chanonry is called "Canonia de Veteri Aberdon," the Chanonry of Old Aberdon; and "Canonia nostra de Aberdon," our Chanonry of Aberdon (*Registrum*, I. 192-194). It is only the hamlet on the east side of Don Street and both sides of High Street that is called old—not the Chanonry. At first the Cathedral Church, the bishop's palace, and the canons' manses had been very humble buildings, and not enclosed with a wall. The walls must have been of clay, the roofs of divots covered with heather or thatch, and the windows without glass, for the first church in Scotland to have glass windows at its erection was Ladykirk, built by James IV. about 1500. The huts of the people finding employment about the Cathedral could hardly have been worse than those of the ecclesiastics. But when the Cathedral grew rich and officials increased in number the ground belonging to the bishop and reserved for the Cathedral, the churchyard, the

bishop and the priests had been surrounded by a wall, with ports, to exclude intruders; and this enclosure formed the Chanonry. Instead of mud-walled, turf-roofed huts the Chanonry had been filled with what would have then been reckoned fine buildings, with walls of stone and lime and roofs covered with thin slabs of sandstone. The old walls of houses and gardens show that much well-dressed sandstone had been brought from distant quarries.

In 1240, when the Chanonry is first mentioned, there were twelve canons, including the bishop, and as they likely built their manses mostly with their own hands they might not all have been provided then with manses inside the Chanonry. But by 1359 all had had manses, glebes, offices, and gardens, and all these had been enclosed within a wall. In contrast to the Chanonry the hamlet on High Street was reckoned old. In 1446 it is called both Old Aberdene and Ald Aberdon in the same document. Towards the end of the fifteenth century Aberdene is met with several times, showing that the etymological distinction between Aberdon, the name of the cathedral town, and Aberdeen, the name of the Royal burgh, was beginning to be forgotten. However, in the two charters dated 1489 and 1498 erecting Aberdon into a burgh of barony the distinction between the names is preserved. The first mentions "the Chanonry of Aberdone with its pertinence commonly called the Ald Aberdone," but it says "the harbour of Aberdene." The second is in the same tenor as the former, and it mentions "the town of Abbirdone with its bounds and pertinents commonly called Ald Abbirdoine," and "the harbour of Abbirdeyn." About the close of the fifteenth century the names of the two towns were usually spelled Aberdone and Aberdene.

A.D. 1500 TO 1700.

In the first half of the sixteenth century we find in Latin "Vetus villa Aberdon" and "Vetus Aberdonia," but the usual name is "Vetus Aberdene," showing that the northern town was now contrasted with the southern and not with the Chanonry. Aberdon and its variants dropped almost entirely out of use. The people of the town prefixed Old or Auld to Aberdeen, Aberdene, and latterly Aberdeen. In documents issuing from the Chanonry the prefix Old or Auld had hardly come into use before 1560, and after that the glory of the Chanonry had departed.

After the Reformation Aberdon is rarely seen, and the northern town becomes Old Aberdene, and about 1700 Old Aberdeen.

Since the municipal amalgamation of the two towns the name Old Aberdeen is now no longer required, and it is almost ignored in the Aberdeen Directory. Indeed, to speak of Old Aberdeen is now regarded as vulgar, though the local Post Office preserves the name.

BARONY COURTS.

In early times the Sovereign tried criminals and settled disputes. About 1100 resident judges (called sheriffs) began to be appointed, one for each county.

The feudal system of land-holding led to the introduction of another system of maintaining law and order. When the King gave a grant of land for military service he often erected all the grantee's possessions in one district into a barony and made the proprietor baron or judge in all cases that might arise in it, except heinous crimes. The charter specified the name which the barony was to bear and the place where courts were to be held. The baron summoned to his courts as advisers all the tenants in the barony, or as many as he thought fit. Small matters he settled at his own discretion, but in all important matters he appointed an assize or jury. The number of baronies went on increasing till in the time of James VI. great part of Scotland was under jurisdiction of this sort. The bishops of Aberdon were lords or barons of the barony of Aberdon and several others. The court of the barony of Aberdon was held within the Chanonry, sometimes at St Thomas's Chapel near Tillydron, sometimes in the cathedral, and sometimes in the bishop's palace. The bishop seems to have always delegated his duties to a baillie, and then he could appear before the court as pursuer when necessary to vindicate his rights.

BURGH OF ABERDON.

On December 26, 1489, James IV. granted to Bishop Elphinstone a charter erecting the Chanonry and its pertinents commonly called Old Aberdon into a burgh of barony. This was done on account of his affection for the bishop and his gratuitous services to him and the

nation, and in remuneration of his expenses on foreign embassies. The charter states that it was clearly evident to the King and his Council that David I. had infested the Chanonry of Aberdon, with its pertinents commonly called Old Aberdon, into the see of a bishop and a city, and it affirms that this was true, and re-enacts the infestation. In furtherance of what his predecessor had done King James created the Chanonry and Old Aberdon a free burgh of barony, and he granted its inhabitants full liberty to buy and sell all manner of victuals, wines, and merchandise, and to have craftsmen of all kinds in the burgh. The charter also granted power to the bishop and his successors to choose annually baillies, sergeants and other officers necessary for the government of the burgh, and to make burgesses who should have the right to the privileges of the burgh. This gave protection to the local craftsmen, for it prevented any person from Aberdeen or the county from offering for sale in the burgh things made outside it, unless they made themselves burgesses of the burgh of Aberdon.

The right was given also of holding two annual fairs in the burgh with liberty to all outside or inside the burgh to buy and sell all manner of goods. Tolls, however, were leviable on all live stock (guids) and merchandise (gear) brought within the market, which was a source of revenue to the superior, the bishop. The markets were held—one on the day before Good Friday, when good Catholics went to the confessional that they might partake in the Easter Communion, and the other on St Luke's Day, October 18, when harvest was done and, the grazing season being over, young cattle, horses, and sheep had to be sold. Money being, therefore, more plentiful than usual country visitors were able to buy shoes and clothes for the coming winter. The Easter market is not held now, and St Luke's is generally held on the last Wednesday of October. The charter gave also a weekly market on Monday for the sale of provisions. The day was afterwards changed to Thursday, which gave the inhabitants of Aberdene room to complain that this gave the people of Aberdon an opportunity of buying up provisions on their way to Aberdene on the day before their market. The market day was therefore by Act of Parliament changed to Tuesday. Bishop Elphinstone hoped that this market would help to create a new town of Aberdon on the south side of Powis Burn but this hope was not realised. The two annual fairs had no doubt been held regularly in

virtue of the charter, but the granting of another charter soon after the first looks as if the other provisions of the first charter had not come into operation.

On August 21, 1498, King James IV. granted another charter almost identical in tenor with that of 1489. Three points of difference are, however, observable in the two. The second charter empowers the bishop to appoint a provost, who is not mentioned in the first. In the second charter the University instituted in 1494-5 is introduced. The reason for this seems to have been that, though the college had not begun to be built, teaching had been going on, which had made it desirable to give a locus to the University. In the first charter the distinction between the Chanonry and Old Aberdon is maintained. It mentions the Chanonry, with its pertinents commonly called Old Aberdon. In the second charter Aberdon and its pertinents are spoken of as one thing, identical with Old Aberdon. By the first the Chanonry and Aberdon are erected into the city and burgh of Old Aberdon. By the second Aberdon, including the Chanonry, is erected into the city, University, and burgh of Old Aberdon.

Almost a hundred years have elapsed before the burgh is again mentioned. The first mention of a provost and baillies for the city of Old Aberdene, as it had come to be called, is in 1597, when they petitioned Parliament to have the bishop's consistory or commissary court removed from the new town of Aberdene to the cathedral town, where it had been at first. This court took cognisance of wills, marriages, and all matters coming under the head of canon law. It was abolished in 1560, but restored in 1563, when its seat was appointed to be in the county town. But, on a humble petition from the magistrates of Old Aberdene showing that the town had been impoverished by the Reformation, the seat of the court was restored to the Cathedral. John Spalding, author of "Memorialls of the Trubles," was commissary clerk. As his narrative stops before the death of Charles I., it is probable that he died about the beginning of 1649, for on March 16 an Act of Parliament was passed transferring the court again to Aberdene. In 1622 it was restored to the Cathedral, but in 1690 it went back to Aberdene, where it remained till it was abolished in 1876.

Before 1601 the craftsmen had been incorporated into guilds. A plate in "Records of Old Aberdeen" (New Spalding Club) shows the arms of the Trades, and the Hammermen's shield bears the date 1600.

The extant minutes of the Town Council begin on December 29, 1602, with the election of a provost and council by the former council and the community of Old Aberdeen. By the burgh charter the right of electing magistrates was in the bishop, but after the Reformation he was of so little importance that he must have let the people choose their own magistrates. Bishop Peter Blackburn, having been appointed by the King with a seat in Parliament, felt himself in a strong position and exercised his right of naming the magistrates. After his death the elections were again left to the retiring council and the community. On the abolition of Episcopacy in 1638 and Adam Bannatyne's departure next year there was no one with a shadow of a right to interfere with the community in the election of their magistrates, till after the Restoration in 1660. David Mitchell was consecrated Bishop of Aberdeen in 1661, and from that time till the Revolution Settlement in 1690 the bishops, being superiors of the burgh, exercised their rights to some extent; but apparently they left the election of the magistrates in the hands of the citizens as they had found it. The Crown came into the rights of the bishops as superiors of the burgh, but did not interfere till 1719, when the Government, finding that on account of the rebellion of 1715 the election of magistrates had been allowed to lapse, resuscitated the election and gave the retiring councils power to elect their successors, and this system continued till the amalgamation of Old Aberdeen with Aberdeen in 1891.

OTHER COURTS.

Besides the burgh there were other jurisdictions in Old Aberdeen and, as the same persons might hold office in more than one capacity, the proceedings of other courts are sometimes recorded in the Town Council's books. In 1609 a bishop's court was held in his palace by his baillie Alexander Gordon, provost of Old Aberdeen, and the town baillies sat in the court as assessors to the baron baillie. Before this court appeared Peter Blackburn, Bishop of Aberdeen, prosecuting certain feuars for arrears of feu-duties and for non-entry with him as superior of the barony. The proceedings of the court are recorded in the Minute Book of the Town Council. This court was open to all within the barony, whether within or without the burgh bounds; but in 1616 the magistrates passed an act

deprecating suits in other courts by the inhabitants of the city, Spital, or College Bounds before trying to settle matters in the burgh court. In 1689 also, when the regime of the bishops was near its end, the provost and baillies forbade the town's officers to summon any inhabitant of Old Aberdeen or its freedom before the Bishop's Court.

Another court was the College Court, which seems to have dealt with offences in which persons connected with the University were concerned. Three minutes of this court are recorded in 1605. At one meeting, at which were present also the magistrates of the burgh, it was enacted that "na browster givf any scholler ather meit or drink within this citie." Another minute says:—"The said day Dauid Skeddna, younger, confessit he was drinking efter ten houris at evin in Eduart Cruckshankis hous." Fined ten marks. David was probably a student.

EXTENT OF THE CITY.

The statement in the charters that King David infest the town of Aberdon into an episcopal see and city is a fiction based upon forged charters which mention the town of Old Aberdeen before 1165, but it goes beyond them when it says David created it a city. There is no evidence for this, and it is exceedingly unlikely that before the institution of the bishopric there was at St Machar Church anything which could be called a town. But to entitle the Chanonry Close, with the hamlet in High Street, to be called a city it was enough that it was the see of a diocese and the chief place in the barony of Aberdon, a Crown-created jurisdiction. The burgh boundary on the south was the Powis Burn, but the town records show that the magistrates regarded its freedom as extending south to a key-stone in the Spital, probably one of the Royal burgh boundary stones at King's Crescent. When the burgh affirmed this to the Commissioners of Supply for the shire in 1700 the answer was that the commissioners could not find any proof that the town of Old Aberdeen had any privilege or jurisdiction in the Spital. It was not necessary for burgesses to reside within their burgh. Many burgesses of Old Aberdeen lived in College Bounds and the Spital and found it advantageous to be treated as within the burgh bounds; and as the College was owner of the College Bounds its court had

exercised some jurisdiction over its people and they may have believed that they were within the burgh.

THE LOCH.

We may assume that in the selection of a site for the cathedral of the diocese of Aberdon a permanent supply of potable water had not been left out of account. The site of the church is 50 feet above the sea and nearly as much above the Don. Proximity to the river, therefore, had not been considered in the matter of drink, though it must have been thought of as a source of food in a Catholic religious establishment.

The nearest supply of water was the Loch, and the cradle of Aberdon had been planted near it. A very high antiquity is claimed for the first church at Aberdon, many believing that a church had been built there by one of Columba's followers. There is a legend accounting for the selection of the site of the Cathedral, but it is not worth repeating. All that can be learned concerning St Machar has been gathered up and related in "Scottish Notes and Queries" by Dr Gammack, and "The Diocesan Saints of Scotland" by the Rev George Cormack; but it does not carry conviction that the Cathedral of Aberdeen was dedicated to St Machar. The Gaelic word "machair" means a haugh, and the proximity of the Cathedral to a large, fertile haugh on the south side of the Don had probably given rise to the legend of St Machar. The first place of worship at Aberdon might have been on the haugh below the Cathedral. There is not before 1170 any writing that can be relied upon in which St Machar is mentioned in connection with Aberdon, or any evidence that there was a church where the Cathedral is before the time of David I.; yet proximity to the Loch affords a strong presumption that there had been a settlement there soon after Columba's time.

From Shetland in the north of Scotland to Wigton in the south many shallow lakes like the Loch of Aberdon are found to have remains of crannogs, which had been made in them for the safety of valuables in case of sudden attacks from plunderers. The mixture of bronze and iron implements and vessels found in the crannogs indicates that they belong to the latter half of the first millennium of the Christian era. There was certainly a crannog in Loch Goule on the north side of the Don, and Orem says

that Sir Alexander Gordon of Cluny, Provost of Old Aberdeen in 1603, who lived near by, had a summer-house in the middle of the Loch and a pleasure boat upon it. This affords a presumption that there had been a crannog there before, or at least it proves that the loch was suitable for one. Like the round towers of Mousa, Brechin, and Abernethy crannogs in Scotland were not capable of sustaining long-continued resistance ; but they were useful for storing valuables such as the sacred silver vessels and emblems belonging to a church. The Loch belonged to the Chapter of the Cathedral and was sometimes called the Bishop's Loch, and sometimes the Dean's Loch because he looked after the property of the Cathedral. He was sometimes called the Bishop's eye. After the Reformation the Loch and the ground around it fell to the Crown. In 1601 it was given by James VI. to Thomas Gairden of Blairton. The inhabitants of Old Aberdeen wished to buy the Loch, and several proposals with this object in view were made ; but terms could not be agreed upon by the parties concerned till 1655, when it became the property of the Town Council. In 1662 it was let on lease for nineteen years to James Gordon of Seaton, who drained it by deepening the eye at Boat-House Brae Road. It grew good crops, and at the end of the lease the Town Council let it annually by public roup. It soon ceased to have any appearance of having been once covered with water. The water of a small stream passes through the bed of the Loch, in an open ditch. If the eye were closed it would again become a lake ; and this may be done for an ornament when Aberdeen extends in this direction, as it is not adapted for being covered with buildings.

In Spalding's "Memorials of the Troubles" of Aberdeen in the Covenanting times, there is an interesting notice of the Lochs of Aberdon and Aberdeen. He was a superstitious creature, who saw—after the event—that the coming troubles had been clearly foretold by portents. He says, under date 1641 :—

It is heir to be nottit that no mawis (gulls) wes sene within the lochis of New or Auld Abirdein since the beginning of their trubles and coming of soldiours to Abirdein who befoir flokkit and elekkit (bred) in so gryte aboundans that it wes plesour to behold them fleing aboue our heidis, yea and some maid vse of thair eggis and burdis.

The Loch of Aberdon had been protected while it belonged to the bishop, both to prevent wanton cruelty to the Black-headed gull (*Larus ridibundus*) which "elekkit"

in it, and also to seeure an annual harvest of young birds for food. All over Britain these birds were esteemed as food when young, being reared on food collected from the land. A gull pond was considered a valuable appendage to an estate. Just when the young birds were beginning to fly a string of men entered the water and drove all the young birds slowly before them. As they reached the side they were caught and killed as quietly as possible not to alarm the old birds, which were allowed to breed a second time without molestation to keep up the number of birds. The young birds were plucked and salted for future use. The black-headed gulls were looked upon as domestic fowl, and were often spoken of as hens. In winter they are numerous about Aberdeen Harbour, but in March they depart for inland breeding places. Many thousands frequent a mill-dam near Kintore, where they breed unmolested. By Spalding's time both lochs had begun to dry up. Their beds being coveted for growing grass they had been partly drained by deepening their outlets. This and the harrying of their nests and the slaughter of their young had more to do with their deserting the Loehs than the troubles about to fall upon the anti-Covenanters of the two towns ealled Aberdeen.

ABERDON AND ITS WATER SUPPLY.

When the Chanonry was filled with manses and enelosed with high walls furnished with ports which could be closed against intrusion the canons were no longer content to drink from the Loch. They made what was ealled the Channel to bring water from Nether Cottown. Nether Cottown was on the south of Gordon's Mills, between Hayton and the Cathedral. The water was brought along the road on the east side of the Loch, as far as the north side of Cluny Garden, and there it turned east along a lane between Nos. 7 and 8 Chanonry. Then it flowed along the street to the north end and descended the brae to the haugh beside the Don. It was quite open at first, but the north end seems to have been covered up latterly. This may have taken place when the road was straightened and a small addition was made to the churchyard, whieh took in the Channel, for in digging graves near the road what appears to have been a covered drain is found.

To give the residents outside the Chanonry the benefit

of the good water it was taken in a brick drain to Cluny port, where a well was made and a pump was put in, accessible from the outside. Water for the service of the Cathedral was got from St Mary's Well, a small spring in the brae going down from the Chanonry to the haugh beside the Don.

The Channel had been made a very long time ago, and it was still running in 1689 when the Provost and Magistrates of Old Aberdeen made an Act against washing at the Channel within the Chanonry, or at Powis Bridge, or on the common street, under the pain of four shillings. The Channel is shown on Gordon's map in 1661, and in Taylor's map in 1773.

The hills on the north-west of the Chanonry are called the Kettle Hills. Kettle represents the Gaelic word "cuitail," which means cattlefold. Places of this name are numerous in both Scotland and England, and Kettle is an Irish personal name. This is one of many indications that anciently Gaelic was the language spoken by the inhabitants of the British Isles.

Women with a big washing on hand went to the Kettle Hills because the Channel passed them and there they were out of sight when tramping blankets in a tub. For an outside washing it was customary to make a "luneart," which was a circular wall of stones with openings to let in air freely and high enough to hold a great fire. A kettle was hung over the fire from a bar resting on supports at the sides. Sometimes the "luneart" was made by digging into the side of a bank, and then it needed little building up. Very strict commands were given not to pour out dirty water where it could run into the Channel.

The inhabitants of Aberdeen were not wholly dependent on the Channel for water. There were several wells inside and outside the Chanonry. Old Aberdeen is on an old sea beach composed of layers of sand resting on a bed of hard glacial clay. Wells are easily dug in the sand, and when they penetrate a few feet into the clay they hold a supply of water. There was a great draw-well in the middle of the bishop's court, lined with dressed sandstone. There was no granite dressing when it was made, and the sandstone had been used because it was easily dressed. When Cromwell wanted stones to make fortifications on the Castlehill in Aberdeen, men were employed to take out the lining of the bishop's well. After some progress had been made, the sides of the well fell in and

buried the men. There was also a draw-well in the chaplains' court at the east end of the Chanonry. In the wall of the Chanonry on the way to the Bridge of Don there was a draw-well, common to the Chanonry and the town. About 1689 the Town Council had to deal with a dangerous draw-well in John Fraser's Close, which was level with the ground at its mouth, so that in the day-time children had fallen in, and in the night older people. It was ordered that a mantling of timber should be made round it. A stone wall was afterwards built round the mouth of this well, and others were protected in the same way.

When Bishop Elphinstone died he left a new constitution for the University which he had founded in 1497, but it had not been confirmed before his death. It is detailed at great length in the Records of the University, "Fasti Aberdonenses," and it provides an aqueduct four feet wide from the Loch to the University. The aqueduct must have followed the courses of the Loch Burn and the Powis Burn, on the left side. The University had also a well of its own, still in existence though not in use, on the south side of the buildings.

The supply of water from the Channel gradually became insufficient for the growing wants of the place, and many houses were far from the Channel. The Channel was liable to get out of order, and its water was at too low a level to reach the whole town, and therefore it was resolved to bring in a new supply in pipes from a higher level. Springs west of the Loch were collected in a cistern, from which the water was conducted by pipes across the bed of the Loch and along Cluny Wynd to a reservoir in the Townhouse. From this the water was distributed to stone cistern wells in the streets, some of which still stand, though now dry.

The making of the railway abolished the Aberdeenshire Canal and this had an injurious effect upon the springs on the lower side of it. The Canal had been made under an Act of Parliament which was not repealed in the railway Act and the Railway Company, being responsible for injury done by abolishing the Canal, agreed to make up the deficiency of water. This was done by pumping water from a well dug at the south end of Kittybrewster Station to a reservoir near the Boat-House Brae, from which it flowed by gravitation to a cistern beside the railway, farther north. From the cistern it ran to the reservoir in Old Aberdeen. The new supply proved insufficient

for the wants of the town, and the Town Council, thinking a bigger supply could be got at a lower level, accepted a sum of money from the Railway Company instead of the water. Water was pumped day and night by a steam engine, first from one well at the bottom of the Boat-House Brae and when it failed from another in the Mortar Hole, made deeper. It, too, began to diminish.

The water had been coming from the bed of the old Loch and after a long time it seemed to be becoming exhausted; but had the pump been placed in the middle of the Loch the supply might have stood out. In making a sewer from the end of Cluny Wynd to the Kettle Hills a great inrush of water put a stop to the construction of the sewer in the ordinary way. Pumping was carried on incessantly for three months but with no effect on the quantity of water encountered and it had to be kept out of the sewer by compressed air.

The failure of the supply from the Mortar Hole led to the incorporation of Aberdon with Aberdeen and the introduction of water at a high pressure from the Dee at Cairnton in 1891.

POWIS BURN.

Powis is a modification of the Gaelic word "poll," a hole full of water, or a burn. "Poll" is sometimes softened into "pow," a name given to the deep slow-running ditches draining the Carse of Gowrie; and the name Pow Brig, occurring in the Chartulary of St Nicholas, is not a mistake for Bow Brig, though it was over the Denburn, for it was only the trunk of a tree, and it means simply the burn bridge.

The Powis burn rises at the Rosehill quarries and flows along Back Hilton Road, forming the boundary of the Freedom of Aberdeen till it is met by a tributary from Downie's Howe, on the north side of Ashgrove. Downie's Howe has a place in a mysterious tale of slaughter said to have been committed at King's College. In connection with this it may be noted that Downie is here not a personal name but a corruption of a Gaelic word, "dunan," meaning small hill or slightly rising ground. After the junction the burn flows, below ground, along the south side of Central Park and crosses Great Northern Road at 30 Powis Terrace, where it runs open for a few yards. It passes under Kittybrewster Station, and there, before the formation of the railway, it was joined by a short tributary from the railway bridge at the north end of Berryden.

Taylor's map in 1773 shows between the two burns Kittybrewster's How, with a house and its well. This name had been given in the belief that in or near the howe there had once lived a woman named Ketty, who brewed ale for sale. Tales, wholly fictitious, were founded on this assumption; but the name means small broken fold. It had been given to a fold for cows, formed by planting upright in the ground tree-trunks close enough to prevent the cattle from getting through. Such folds were sometimes lined outside with skins of cattle and sheep for protection against inclement weather. When a fold fell into decay and could no longer keep in cattle it was sometimes abandoned and was then called a broken fold. Kittybrewster is a corruption of the two Gaelic words "cuitan," a small fold, and "brisde," broken. "An" at the end of a name in Gaelic usually became "y" or "ie" in passing into Scotch, hence "cuitan" had become "cuity" and this had lapsed into Ketty. There was

anciently in Aberdeen another fold of the same name at a well at a bend in Froghall Road, near the march between the lands belonging to the town and those of St Peter's Hospital. There was also a fold of the same name in Keig at a well, but the name had been corrupted into Kittythirst. One of the march stones of the freedom of the city, which was in the den at Kittybrewster, is missing. Its site was on the west side of Powis Terrace, opposite Kittybrewster Railway Station gate. Crossing the railway the burn runs underground on the south side of Powis House.

At the hollow it is joined by the Loch burn, which is first seen near Hilton Lodge, on the west side of Clifton Road. It crosses Woodside and the railway, underground, and it then comes to light flowing east along the lowest part of the hollow. On approaching the Kettle Hills it turns south and drains the bed of the Loch of Aberdon, called also the Bishop's Loch because it belonged to the bishop officially. It crosses Boat-House Brae, drains the hollow below Powis House and joins Powis Burn, which then crosses Bedford Road. It flows round the base of what is called Broomhill in Gordon's map of 1661 but now Hermitage Hill, though the supposed hermitage on the top is only a summer-house built there to have a good outlook seaward.

On the right a small addition comes in from the Firhill well, once much resorted to in summer on Sunday mornings, but now quite forsaken. Till about 1770, its course was through a quagmire and it was from the pools and holes through which it flowed that it had got its name. It formed the south boundary of Aberdon, and on the south side of it stood the Snow Church.

As it was the only available water supply for the south side of Old Aberdeen and the north end of the Spital the Town Council of Old Aberdeen forbade washing in the burn above the Powis Bridge where it crossed the road. It now flows underground across the street and through the corner of the University grounds. Keeping nearly in the line of University Road it reaches King Street, where there is a bridge though it is not readily discernible. Crossing King Street it drives a sawmill, formerly a meal mill, the only work that the burn does.

After crossing King Street Powis burn becomes the Tile burn, because it passes the site of Seaton Brick Work, where tiles used to be made for the roofs of houses in Old Aberdeen. Near the end of its course the Tile burn turns

north, but before entering the Don it was joined by the Banstickle burn, on the right, from the Canny Sweet Pots. The tide comes up the Tile burn, and boats and small ships could take in cargoes of tiles and bricks very near the spot where they were made.

SEATON BRICK WORK.

The red laminated clay at Seaton Brick Work is derived from the old red sandstone beds that once existed, on a larger scale than they do now, between the Dee and the Don on the site of the city. In the glacial epoch the snow sheet entering the sea between the rivers abraded and carried off the soft red rocks. As it entered the sea it melted, and its burden of debris was taken in hand by the waves. Big boulders and large stones had been left where they fell out of the melting snow; small stones had been rolled backwards and forwards at the edge of the sea till worn to pebbles and sand; the sand from the rough clay licked up by the snow had been well washed and deposited in layers on a sloping beach; and the washings, fine pure clay, had been carried out into deep water, where it sank when the tide was at rest at high and low water. When the tide was running fast, flowing or ebbing, the light clay did not get time to fall, but only a little heavy sand. Eight layers had been laid down every day, four of clay when the tide was standing still alternating with four of sand when it was running north or south. When a spadeful of this clay is dug out of a bed and dries in the sun it splits up at the sandy layers into thin leaves or laminae. Since its deposition the land had risen far enough to raise the clay beds above the sea, though in some clay pits the laminated clay goes down below sea level.

ANCIENT ABERDEN.

The first written notice of Aberdeen is in the Book of the Church of Scone. In the foundation charter of the Abbey of Scone (1113 or 1114) five towns, Edinburgh, Stirling, Perth, Inverkeithing and Aberdeen are mentioned. The Book of Deer contains a charter granted by David I. in 1150 to the monks of the Abbey of Deer, exempting them from exactions which, in a court held at Aberdeen, they had sworn they were not liable for. The charter was granted at Aberdeen. Though the name is spelled Aberdoen in the charter it represents Aberdeen, for in Latin *œ* and *e* are often interchanged, as in *fœtus* and *fetus*, and when an English name with *ee* has to be turned into Latin form *ee* is made *oe*, as in “*Phoca Groenlandica*,” the Greenland seal.

Vikings or baymen from the fiords on the south-west of Norway attacked and plundered a place called Apardion, in 1153, in the reign of David's grandson and successor Malcolm IV. The similarity of the names has led the local historians to identify Apardion with Aberdeen.

The next mention of Aberdeen is in a charter of William the Lion (1165-1214) (Anderson's Charters, I.) where also the name of the town is made Aberdoen. In this charter William confirmed to the burgesses of Aberdeen the same rights and privileges in buying and selling as their ancestors, who were also burgesses, had enjoyed under David I., his grandfather; and the same rights were confirmed—not given for the first time—to other burgesses in Elgin and on the north of the Munth or Grampian range. In Anderson's Charters, II. Aberdeen is, erroneously, Aberdon, but after this the normal form of the name is used regularly. This charter gave the burgesses leave to carry their goods for sale all over the country, a very high and unusual privilege, given in return for good service rendered to the Sovereign.

There is much more in these three charters than readily meets the eye, and it cannot be discovered without reference to the feudal system of land holding in Scotland. This system is first seen in operation in the reign of Alexander I. (1107-1124) in the erection of parishes and burghs and in the creation of earls; but David I. (1124-1153) did most to introduce it. By it all the land belonged

to the sovereign on behalf of the nation. He parcelled it out among vassals, who let it to husbandmen to cultivate. The vassals paid only a nominal rent; but they were bound to go out with all the men on their lands fit to bear arms, when the sovereign required their services either in the national defence or to put down rebellion. The vassals were completely in the King's power, because every king at the accession received his kingdom unembarrassed by any objectionable obligations entered into by his predecessors. This led to granting new charters at the beginning of every reign, confirming previous charters.

The King could require his vassals to build castles on their lands for the national defence, and he did not allow castles to be built without his leave. He granted or withheld permission to hold markets on estates and in burghs; he required his vassals to provide ale-houses for the accommodation of travellers, and he prescribed to towns whether they should have ale-houses or not and how many. He could order the vassals to provide mills for grinding the husbandmen's corn, and they were obliged to take their corn to their proprietors' mills. In religious matters the sovereign could order his vassals to provide churches for their husbandmen and pay tithes of the produce of their lands and rivers and even of the adjacent sea. The early Kings divided the country into dioceses, over which were set bishops to superintend churches already erected, and to assign parishes to them with definite bounds and rights and duties, and to promote the erection of more churches and parishes.

Burghs were regarded as vassals. Aberdeen was a burgh in Alexander's time, if not before, and must therefore have been under feudal law and customs for some time before William's accession. There must have been a castle or place of defence in Aberdeen, the work of the burghers' own hands, from the date of the erection of the burgh though it is not mentioned before 1264. The burgesses must have gone out with King William in 1197 or in 1211 to quell an insurrection in Caithness, and it had probably been for good service then that he granted them exemption from tolls on their own goods carried through the country for sale.

The district east of the Deuburn, the Loch, and the Spital Burn had been erected into the parish of St Nicholas with a church and churchyard, outside the town on the west side. As Aberdeen was a sea-port the church had been dedicated to St Nicholas, the patron of sailors.

The first expansions of the burgh had been up the Shiprow and along the north side of the Green. Progress in the former direction had been arrested by growing distance from water, and the chief increase of the town had been in the Green. This area, however, seems to have been too valuable for pasture to be wholly given over for sites of houses, and at first probably the Green had only one row of houses, along the road from the Bow Brig to the bottom of Carnegie's Brae. The rest of the Green seems from the *Chartulary of St Nicholas* to have been divided into crofts. It is certain from the courses of burns in the Green that the triangular block at the east end shown in Gordon's map was not built upon for long after the erection of the burgh. It must be remembered that the Green anciently covered the site of Union Street and the south end of the churchyard. There are indications of this in the walls in Back Wynd and Correction Wynd. These were roads to the church. The Green was sometimes called the Denburn, and the level ground west of the burn was sometimes called the Green and sometimes the Denburn. The Mid Mill, which was about the site of the Commercial Bank, was sometimes said to be in the Green, sometimes in the Denburn. St Mary's Well, which was near the bottom of Affleck Street, is on one occasion said to be in the Green. In the *Chartulary of St Nicholas* (II. 38), we read of the Stokrud in the Denburn. This was a wooden cross, probably with a figure of Christ in his passion upon it, where people said prayers. It may have been near the bridge over the Denburn, convenient for travellers leaving and entering the town. When the Bridge of Dee was built, 1527, a chapel was erected near it for the use of pious travellers.

The Green was well supplied with water, having the Denburn on the south and the west. The injunctions against watering horses above the bridge show that the burn was used for domestic purposes.

At the east end of the Green there was a strong spring of water at the bottom of Carnegie's Brae. This spring was afterwards built over, and was in the basement of the house in Union Street formerly the head office of the Town and County Bank. When advertised for sale before the introduction of water from the Dee the existence of this spring in the house was mentioned as adding to its value. The spring seems to have run down the west side of the street going down to the Shiprow, which from this small stream was called Putachieside. This street is still in existence though

but few people know of it. The upper part of Market Street is supported by a long arch spanning Putachieside. Putachie means a place where there was a cattlefold at a burn and from it we may infer that the Green, on both sides of the Denburn, was in very early times a grazing ground for the cows of the burghers.

Two orders of friars had monasteries in the Green, the Trinitarians and the Carmelites. The Trinitarians or Red Friars had their yard in the angle between Market Street and Guild Street, and the ground of the Carmelites or Whitefriars was in the south-west angle of the Green, having the Denburn on the west and south.

Long before the time of King Alexander a main north and south road had crossed the Don by ford and ferry near the place where the Bridge of Balgownie was afterwards built. Going to Aberdeen it had passed through Aberdon, over the Spital Hill, and along the line of the Gallowgate and Broad Street (which was part of the Gallowgate), and down the slope of the Shiprow. Leaving the town it had crossed the Green and the Denburn, and mounting the Windmill Brae had followed the Hardgate to the Fords of Dee at Pitmuckston.

When Aberdeen was made a burgh one of the privileges conferred upon the burgesses was the right of holding a free ause or market, when and where they pleased; and from a charter of Alexander III. we see that a market might have lasted two weeks. This shows that a market-place was essential for the burgh, and so also had been wooden booths that could be locked up when the market was not going on. These in old Edinburgh were called lucken booths. They were common in the towns of the Continent where great fairs were held, and they served as shops and residences for stranger merchants.

The most suitable site for the market seems to have been the west side of that part of the Gallowgate between the Upperkirkgate and Union Street, and if this was the site the space allotted for it would have been the area between the west side of the modern Broad Street and the west side of Guestrow, though at the institution of the market the town might not have extended so far as the upper end of Broad Street.

LOCH OF ABERDEN AND ITS FEEDERS.

At a time antecedent to the commencement of the extant records of Aberdeen there was within the area of modern Aberdeen, but outside the ancient city, a huge sheet of water called the Loch, covering an area of more than a hundred acres. The north end extended along Fraser Road to Millbank Lane and thence to the lowest parts of Holland Street, where its chief feeder, the Westburn, entered; but the main portion of the Loch was south of Hutcheon Street. It was bounded by the high ground at Kingsland Place, Maberly Street, Spring Garden, Loch Street, Crooked Lane, St Andrew Street, Blackfriars Street, the railway and the high ground east of Ann Street. The outlet was at Gilcomston Steps. It was a shallow basin excavated by a glacier from Westburn valley, augmented by a smaller from Berryden, and it had been deepest where it was narrowest, at the north end. In making a sewer in Hutcheon Street peat-moss containing stems of hazel was found near the gate of Broadford Works, showing that it had been deep there.

Before we hear of the Loch its two feeders the Westburn and the Spital Burn had been cut off to supply the town with water and to drive a mill at the south end of the Guestrow; and, as there were no springs of water in its bed, it had to depend on the rainfall for its existence. Under these circumstances it must have varied much in size according to the season of the year, being large in winter and confined to deep pools in summer.

We first hear of the loch from Spalding, who wrote an account of the troubles of Aberdon and Aberdeen—or, as he calls them, both Aberdeins—in the Covenanting times in the reign of Charles I. These troubles, he says, might have been foreseen by the inhabitants if they had not been blind to the augury of the sea maws or black-headed gulls, which had begun to forsake their usual breeding haunts in the Lochs of Aberdon and Aberdeen. The latter was evidently drying up, and its bed was becoming clothed with grass. Soon after Spalding's lament for the gulls, the town's records say:—"The magistrates, considering the prejudice done to the grass of the loch by the dailie resorting of the geiss belonging to sindrie of the inhabitants, ordained the belman to be

presentlie sent throw the town charging all the inhabitants to remove their geiss out of the said Loch."

In Gordon's map, 1661, we see the loch greatly reduced in size. It does not now go so far north as Maberly Street, and it is called a Marisch. The cause is seen in a ditch going round it on the north preventing water from entering, and another deeper ditch on the south draining the Loch.

Taylor's map, 1773, shows the bed of the Loch as dry ground called the Lochlands, drained by a ditch from Innes Street to the outlet at Spa Street, with a branch from Gordon's Hospital going north to the main ditch. The name Loch had been already, in 1661, transferred to a mill dam extending along the side of the east arm of Loch Street. The whole north end of the Lochlands extending on both sides of George Street is marked Spring Gardens, so that before 1773 leeks and cabbages were grown where once there had been the great Loch, "gray with geese and white with goos."

A glance into the backyards of the houses on the area of the Loch shows that the streets have been made up several feet, and these sunk places enable us to trace the outline of the Loch when at its full extent, though that had been six or seven hundred years ago.

Excavations for connecting houses with sewers in the streets show that there is in the bed of the Loch a great depth of rather fine glacial clay of a greenish yellow colour, almost destitute of stones.

WESTBURN.

This burn, sometimes called Gilcomston Burn, rises at Mastrick and flows east across the road to Cairnery Quarries. It passes Castleton and runs along the north side of Westburn Road. It is gradually being covered up, but it still runs open through Westburn Park. Then it disappears, running below ground across Cornhill Road and through the Lunatic Asylum grounds. Long ago it drove a small bark mill on the south side of the burn and on the west side of Berryden Road. Near it, according to Keith's "View of the Diocese," there was, two hundred years ago, a cairn marking the grave of Baillie Cattanach who was killed in a quarrel with William Leith of Barns, Premnay, in 1351. In Skene's "Succinct Survey of Aberdeen," 1685, Leith is said to have been Provost of Aberdeen, and on "Lawrence," one of two bells presented

by him to the church of Saint Nieholas, he was styled "Praepositus," that is Provost. The bell which he presented cracked, and the inscription was put on when it was re-cast. It was smashed to fragments by a fall when the East Church was burned in 1874.

The Burn crosses Berryden Road at a place indicated by an iron plate in the road. Then it goes under the Northern Co-operative Company's Bakery, and under the railway a little south of the subway, but first it does some good in cooling condensing ponds at the Co-operative Bakery and the Berryden Weaving Works. There was at one time a dam in Berryden, with a mill, and this gave rise to the name Millbank. The burn next crosses Holland Street, and the end of Millbank Lane, keeping well up; but originally it turned south and entered the Loch at its north-west corner in Holland Street.

Six or seven hundred years ago, it had been diverted to the east to join the Spital Burn on the west of George Street, and, united with it, crossed Hutcheon Street. Then it skirted the east side of the Loch, and at Maberly Street turned east, to supply water to the Gallowgate and Broad Street. For a time it was employed to feed a pond at Broadford Works for condensing steam, but having become polluted with sewage it was given up, and water from the Denburn took its place. At present it crosses Maberly Street diagonally, and it may be seen through chinks in the pavement near the end of Charlotte Street. It then turns west, behind a carpenter's shop, and flows south in a track along which there was once an avenue bordered with trees.

Near the end of John Street, where the outlet of the Loch formerly was, the burn passes under the railway and enters on Gileomston Steps at a passage between two houses, Nos 17 and 18. The burn still passes this way near a lamp in the middle of the road and runs along the west side of Spa Street, under the pavement now; but till the middle of last century it was open, and the doors of the houses had bridges before them. At that time the Well of Spa was at the south end of Spa Street, in a low-lying place at the end of the house called Spa Bar, and the burn flowed between this house and the well. Crossing Upper Denburn it enters the Denburn above the Collie Bridge, which took its name from the occupant of a spirit shop at the end of the bridge, where burghers who had taken a stroll into the country refreshed themselves before entering the town.

The boundary between Old Machar and St Nicholas follows the channel of this burn from the Denburn upward to the place where it joined the Spital Burn, thence it followed the now extinct Spital Burn to Jute Street.

SPITAL OR FROGHALL BURN.

Spital is a name derived from an hospital for infirm priests, founded before 1200 by Bishop Matthew. It was dedicated to St Peter, and it stood in what is now St Peter's Cemetery on the east side of the street called Spital; but the burn was at the base of Spital hill on the west side.

Froghall is an old name coming from the Gaelic word "frog," a hole full of water; and there must have been one on its course anciently about Jute Street. In Foveran there is a place called Frogmore from a big pool near it.

The Spital Burn formed the west boundary of a small parish called St Peter's or the Spital, suppressed at the Reformation. From Jute Street downwards to the Denburn it had been part of the boundary between the parishes of Old Machar and St Nicholas; but it has now vanished entirely out of sight. It rose out of the ground at the embankment in Sunnyside Road, which now covers its well-spring. Formerly, it passed under the Aberdeenshire Canal, the bed of which the railway now occupies; but originally it crossed the line of the Canal and entered on Causewayend at the boundary of the Royalty, at the end of a house on which the word Causewayend is painted. This is at the lowest part of the street, where there was anciently a ford across the burn.

Causewayend means the end of the made road which began at the Gallowgate and extended to the city boundary. Beyond this the road had long been left in its natural state. A causeyed road might be paved or shod with stones laid close and level by hand, or with small field stones and gravel laid down promiscuously. Both ways were practised by the Romans in this country, as is seen in their roads along the Roman Wall. There is a Causewayend on the north side of the Don; and "causeway," both in it and in the Aberdeen street, and also "calsay" in the name Calsayseat and "causey" in Causey of the Cowie Munth mean a shoeing of small stones laid down at random and covered with sand or gravel. Only the middle

part of such roads was shod; there were at the sides broad bare strips called the ridges. "Causey" comes from Latin "calciare," to shoe, through French "chausser," having the same meaning.

The burn crossed Causewayend and formed the boundary between the feus in Charles Street and Hutcheon Street, and it crossed George Street at No 466, where there is a low place in the street, now much made up. Here then used to be a Petty Customs Box where a tax was paid on provisions entering the town. West of George Street it received the Westburn and turned south. It crossed Hutcheon Street at the west side of the Meat Market, entering the Loch at its north-east corner.

FIRST WATER SUPPLY.

Two requisites for the convenience and expansion of the town were a corn mill, and a supply of potable water for the high ground on the line of Broad Street and the Gallowgate, in which direction the town could most conveniently extend. Being a burgh the townsmen could do collectively what they had not been able to do before. From the "Book of St George's-in-the-West" we see that there had been a corn mill at the end of the block of building between the Guestrow and Broad Street, facing Netherkirkgate. A local historian describes in it what was seen in the beginning of last century when two houses on this site were taken down to be rebuilt. They stood back to back, one fronting Broad Street and one the Guestrow, with their ends abutting on the Netherkirkgate. He says workmen came upon what had been a fall about five feet high, apparently for driving a mill wheel, in the end of the house in the Guestrow. After serving the mill the water passed to the house in Broad Street, which it left in the Netherkirkgate some six feet from the front, and crossing Broad Street at an angle landed at or near the base of the steeple of the Municipal Buildings. On digging the foundation of the steeple the remains of a waulkmill were found.

Having found a mill, it is necessary to bring water to it. In the St George's Book we get a hint of a water course leading to the mill. In 1873 when a house was taken down to be rebuilt at the west end of Red Lion Court, between Broad Street and the Guestrow, "the distinct remains of a burn were observed passing from north to south, and close to the Guestrow. At the north end it was on the surface about six feet broad, tapering slightly to the south end. The bed of the burn was fairly semi-circular, and about three feet deep." It must be observed that the surface of the ground in which the burn ran was not the same as the present surface of the street, which has been made up, for on rebuilding a house in Broad Street, a little further south, the floor of a cow byre was found at eight feet below the present surface of the ground. There was an old oak cask sunk into the floor with a paved channel leading into its mouth. On the other side of the street stood till lately Greyfriars Church. When

it was taken down it was found that the original floor had been made up several feet to bring it to the level of the surrounding ground.

The most readily available supply of water for the mill and for the wants of the people had been the two burns already described which fed the old Loch of Aberdeen, now dry and covered with streets and houses. To bring them to the end of Broad Street all that was necessary was to divert them before entering the Loch, and to keep as hard to the left as possible without making a channel deeper than sufficient to carry the water. The ford of the Spital burn in Causewayend is sixty feet above the sea, and the south end of Broad Street is less than that at present, so that the water could run as things are; but formerly the Shiprow sloped upward more gradually than it does now, and it crossed Union Street in a depression between St Catherine's Hill on the west and Castle Street, once high uneven ground, on the east. That the Shiprow has been made up several feet can be seen by a house at the end of Exchequer Row, and it crossed Union Street and entered Broad Street at a lower level than the present.

The Westburn or Gilcomston burn originally entered the Loch at the lowest part of Holland Street; but to get it to Broad Street it had been diverted eastward at the north end of Holland Street. It now crosses Millbank Lane, and comes into day-light at the back of a high dyke at the lower end of the lane. Here there must have been a mill at one time, for a house in Stafford Street formerly stood alone and was called Millbank House, and a part of George Street was called Millbank Terrace. There still remains in Millbank Lane the entrance lodge and a gate with a grotesque head on either side, worth the notice of antiquaries. The Gilcomston burn crosses Fraser Street and Fraser Place, and near Huteheon Street it joined the Spital burn so long as it came this way, which, however, it ceased to do when the Waterloo branch of the railway was made.

The joint stream crossed Huteheon Street at the west side of the Meat Market, in the same course as the Gilcomston burn still has, and kept as far to the east as the high ground at Kingsland Place would permit. Approaching Maberly Street it turned east across George Street, on the north side of Spring Garden and away from the Loch, which was at a lower level. At Innes Street it turned south, maintaining as high a level as practicable along the east side of Loch Street. On the site of St Paul's

Street was the Vennel, a lane which gave residents in the Gallowgate access to water. Keeping east of Drum's Lane, it had crossed the Upperkirkgate about University Press Court, where there was found in 1886 a bronze pot containing a pose of about 12,000 silver coins mostly of Edward I., Edward II., and Edward III., of England. Its subsequent course had been along the east side of the Guestrow till it reached the mill at the south end. Its course had been laid out before there was a single house along the whole route, so that there were no difficulties to overcome.

Going south from the Townhouse the water from the mill had crossed Union Street and passed under the house in Union Street No 17, and under No. 8 Exchequer Row, then across this street and along Exchequer Court, and down the steep brae to the Denburn, which then ran where Virginia Street is now. In the house in Exchequer Row there used to be seen, in the cellar, posts and a framework of wood, the remains of a water course that had afterwards been built over. When a sewer was made in Exchequer Row the water course was crossed at a depth of ten feet, and in the bottom of it was a pair of brogues.

This had been the mill of Aberdeen mentioned in the "Registrum," I. 5, 84, in what is called the bull of Pope Adrian IV. Through a forgery the author may be credited with knowing that there was in Aberdeen a mill, and only one, when he was drawing it up some time after 1427.

We may now fancy we see an open burn running along the west side of the burgh market-place. Here, by charter of Alexander II., the citizens held a weekly market on Saturdays for the purchase of provisions brought in from the country; and here at the long summer fairs strangers—some from abroad—came and offered for sale by retail the better sort of clothes and bought wool and furs and hides. Tanning was imperfectly done in Scotland till the time of Charles I. From the Exchequer Rolls we see that there was a great export of furs and wool from Aberdeen in the time of Robert Bruce.

It is curious to note that in the rural parts of the county people might spin wool and weave cloth, but they were forbidden to dye it or shear it, that is, raise a pile and crop it close. This was reserved for the burgesses of the town. But ingenuity enabled the weavers of other places to produce some ornament without breaking the law. In the inventory of plenishing left by Bishop Alexander Gordon,

which had to be taken over by his successor, Gavin Dunbar, there is “Ane quhyt Irelande playd corsyt with blak rangis,” and “Ane alde comptour clayth of Buehane weifing.” The first seems to have been a black and white tartan blanket, and the second a Buchan-made tartan tablecloth used in Compound Addition of money. As few could read or write the actual coins or counters representing them were laid down in rows on separate squares on a cloth, and then counted up.

The stream had served the double purpose of driving the mill and giving the people water. This had been followed by extending the town upwards, and in process of time Broad Street and the Gallowgate had been lined on both sides with low houses, walls of clay or wood and roofs of thatch, having their gables to the street and lanes in front for letting in cows and sheep and horses with back-loads of corn and peats. When the town became more crowded and space was more valuable the houses were made higher and roofed with tiles, with byres and stables below and the dwellings above, as is seen in rural Switzerland still. The dwellings were reached by a wooden stair ending in a gallery in front of the house leading to the door. The space below the gallery and the forestair, as it was called, was a convenient receptacle for the midden of dung from the byre and stable or for a swine’s cruive. The last of the houses of this style was a row at the head of Mutton Brae, on the south side of Rosemount Viaduct, in front of the churches. They were occupied by the chimney-sweepers of the town, who used the ground floors not for domestic animals but as soot stores.

At first the water had run along in an open channel near the west side of the original Broad Street, as it did long in the Chanonry of Aberdon, and as it does to this day in towns in other countries, especially where there is an abundant supply from snow-clad mountains. In process of time traders from distant places were allowed to erect lockfast wooden booths on the east margin of the water channel to serve as shops in the fair time. These got the name of the Boothraw, which is mentioned in the Chartulary of St Nicholas about 1430. To give the residents on the east side of Broad Street access to the water, gaps in the Boothraw were left at Ragg’s Lane and Blairton Lane, and the Red Lion Inn Court was a public thoroughfare long ago.

BURNS.

THE DENBURN.

The Denburn, the natural supply of water for Aberdeen, has its beginning beyond Kingswells, on the north side of the Skene Road, six miles and a half from its original termination in the Dee near its mouth. In its course it passes the Mill of Maidencraig, erected by the Town Council in 1616, but no longer at work. Half a mile farther down is Oldmill, a name which indicates that there had been a mill there before the Maidencraig mill was built. A mile on it passes through Rubislaw Den and enters the city. At the lower end of the den was the dam of Glenburnie Distillery, which was in operation till 1857. At Blenheim Place the Denburn disappears in a culvert and crosses Osborne Place. Till 1903 it was crossed by Stonyton Bridge, a little west of Prince Arthur Street, where a branch went off on the south side to drive a meal mill between Carden Place and Osborne Place, south of Gilcomston Dam. It was given up in 1830 and removed in 1842; but its site is shown in "Vanishing Aberdeen." Between Stonyton Bridge and Gilcomston Dam the Denburn received on the north side an important little stream which has now quite disappeared from sight. It was the boundary between the lands of Gilcomston, belonging to the town, and Rubislaw, belonging to Skene of Rubislaw House, who thwarted the Town Council in a scheme for taking water from the Denburn across the tongue of land between the two burns, and this led to bringing water to the city from the Bridge of Dee. Originally this little burn appeared near South Stocket Road and ran along a hollow south of Morningfield Road. Crossing Forest Road, Carlton Place, Fountainhall Road, and Blenheim Place it ran along the south side of Desswood Place, and, turning off to the right, it entered the Denburn above Gilcomston Dam, now filled up. Its course now ends in a sewer in Forest Road. Though now quite lost to sight its course is shown on Taylor's Map, 1773.

Gilcomston Dam was not formed till the town bought the lands of Gilcomston in 1580, but it was at this dam that the supply of water for the town and the Upper and Nether Mills was taken off from the Denburn.

The Denburn is now only the surplus water which overflowed at the dam, and it is sometimes very small. It disappears from the light of day at a famous well called Cardenhaugh Well, to which citizens long ago made excursions in such numbers that old women attended with jugs and baskets of gingerbread, once a favourite cake with young and old. The well was on the north side of the Denburn, where it enters a culvert near the Grammar School. Its water was the first to be taken into Aberdeen in a pipe.

The Denburn reappears for a little at Esslemont Avenue, and finally vanishes at Hardweird, now a squalid street, but once a suburban village with St John's Well to supply it with pure water. Hardweird is a compound of two Gaelic words, "ard" and "uird," meaning the hill of the height. The second part had been added to explain the first after its meaning had been obscured by prefixing the "h" to it. It is first mentioned as the name of a croft on the brae above the street. In 1749 the Town Council began to feu the lands of Gilcomston, and made a bridge over the Denburn at Hardweird in 1754. At the end of Spa Street the Denburn originally received the overflow of the Loch fed by the Spital Burn and the Westburn; now it receives the Westburn and also the water taken off at Gilcomston Dam to drive the mill at Jack's Brae and feed the pond at Broadford. It passes under Collie's Bridge at the end of Skene Street, and turns south along the Denburn Valley. This was once a pretty, natural, glacier-made dell; but it has suffered many changes from the hands of man. In 1758, the Denburn was straightened, and small cascades were formed at short intervals. Brieck arches were thrown across the burn and called Chinese Bridges from their resemblance to the bridge on the Willow Pattern plate. Having no parapets these bridges were unsafe and were removed. One gave place to a wooden bridge on the footroad between Mutton Brae and Skene Terraee.

The burn ran so slowly that it did not keep its bed clear of refuse. Then it was shod, with a concave bottom, which increased its speed but diminished the volume of water and made the burn look puny in its wide bed. Other two bridges spanned the Denburn farther down, Union Bridge and the Bow Brig. Being low the Bow Brig had to be removed when the Denburn Valley railway was made, and the burn was covered up.

At the upper end of the valley the burn is on the west

side of the railway, passing under the east wall of the theatre, where its bed is old red sandstone rock. Before reaching Union Bridge the burn is east of the railway; at Guild Street it is west; and at the south end of the Joint Station it crosses again to the east and enters the Upper Dock at its south-west corner.

When we first know anything of its course it turned east at Guild Street, and flowed along the south of the Carmelite Monastery grounds; but sometimes it is shown making a detour to the south before turning east. It passed also the grounds of the Trinitarian Monastery, sometimes encroaching on the churchyard. Here it took the name of the Trinity Burn, and Trinity Quay took its name from the burn. It ran along the base of the steep brae in the line of Virginia Street, forming the boat harbour of the ancient town. The Denburn ultimately joined the Dee so near the sea that Aberdeen might mean either the infall of the Denburn into the Dee or into the sea.

THE POWCREEK BURN.

Powcreek means the wide mouth of a pow, an old name for a burn, especially a slow-running burn. The Powcreek Burn took its rise in a small spring in the side of West North Street at the mouth of Chronicle Lane. Its water was thought to be good for "sair een," and the trouble of collecting a bottleful with a spoon was not grudged by those who believed in its efficacy. Keeping near West North Street it crossed Mealmarket Street at the bend, the lowest place in the street, and drained the low ground between West North Street and King Street. Here there were pools much frequented by young Aberdonians in time of frost. Near the railway the burn found its way across King Street, now made up, and ran in a slight hollow which afterwards became the bed of the canal and subsequently the bed of the railway. At Park Street, it was crossed by the Thieves' Brig on the way from Justice Port to the Gallow Hill, the place of execution. This is now partly in Trinity Cemetery and partly in a sand quarry off Errol Street.

In excavating the sand two ends of strong iron chains were found at some distance from one another. They came from the direction of the Shelter in the cemetery, which appears to be on the spot where the gallows stood, and it was supposed that they had been used to prevent

the bodies of criminals from being cut down and carried off by their friends. More likely the chains, which were not on the surface, but sunk in the ground, had been the terminals of a lightning conductor protecting a powder magazine subsequently erected on the Gallow Hill, and there may be other terminals extending into the cemetery.

Before coming to Constitution Street the Powcreek Burn passed under the bed of the Canal in a culvert.

At the Banner Mill, in Constitution Street, the Powcreek Burn was joined by a small tributary from the west side of the Broad Hill, the place of which has now been usurped by Urquhart Road. When it ran along the east wall of the Banner Mill this little stream was visited sixty years ago by Professor Macgillivray's young conchologists in search of fresh-water mollusca. In it and in the Spital Burn were found "*Lymnaeus pereger limosus*" and "*Planorbis vortex spirorbis*." The Powis Burn in its course along Back Hilton Road supplied a small fresh-water limpet called "*Ancylus fluviatilis*." It may be noted that the Aberdeen University Library does not contain a copy of Macgillivray's *Mollusca of Aberdeen, Kincardine, and Banff*, though probably copies are still in existence in Aberdeen.

In the first stage of life the young of shell-fish move about freely and attach themselves to fishes, by which they may be carried up a stream. In the next stage they drop off and begin an independent life.

In Gordon's Map of Aberdeen in 1661 the site of the Banner Mill is shown as an island, with the Powcreek Burn and its tributary all round it. The island was a willow plantation, and the houses shown in the map were wooden sheds for storing willow wands. Access to the island was got by a foot-bridge over the burn.

The Banner Mill was built in 1830 for spinning cotton yarn when flax-spinning was given up, and it was set down near the burn to get water for condensing steam. From the place where it was built it was long called the Bog Mill. Latterly the ponds at the mill were fed by water from the Bansticle Burn, brought along the east side of the Broad Hill. After working over seventy years cotton-spinning became unprofitable and the mill ceased to work in 1904.

Below the Banner Mill the Powcreek Burn was crossed by the Boul Road. Boulget occurs in Alexander Hay's charter for upholding Balgownie Brig, 1605; and it is mentioned repeatedly in Spalding's "Memorialls of the

Trubles." Though generally thought to have some connection with the game of bowls, the name comes from the Gaelic word "buaile," a cowfold, and it means the road to the fold where the citizens' cows, herded on the links by a common herd, were put to rest and to be milked at mid-day. About 1830 the name was changed to Albion Street. There is also a Bowl Road near Tarves, another in Strachan, and Spalding mentions one in Edinburgh. There is one Bulwark, a corruption of Gaelic words meaning a cowfold, in Deer, and another in King-Edward.

The Powcreek Burn entered the Denburn at the end of Virginia Street, but in consequence of some alterations at the harbour in 1658 the Denburn was diverted from its old course into the upper end of the modern harbour, which formerly extended further west than it does now. This left the old bed dry and cut off the Powcreek Burn from the Denburn. Then a ditch was dug along the bottom of the brae extending from the Shiprow downwards to the Powcreek Burn, and the ditch was carried down to Fittie to give water to the fisher population. Their boat-haven was called Pockraw, which means burn row, pouk being a Scotch word meaning a burn, or a hole.

When the railway was made provision had to be made for the Powcreek Burn. From its source to King Street it runs underground; but on crossing King Street it becomes a sewer. It runs under Jasmine Terrace and Duff Street, and crosses the railway in an inverted siphon above the bridge in Constitution Street. Then it passes under the corner of the Granite Works premises, crosses also Constitution Street and afterwards joins a sewer in Cotton Street, which discharges at Abercromby Jetty.

The old estuary of the Powcreek Burn was the boat harbour of the town till 1658, when it was filled up. It afterwards became first the basin where the canal barges lay and afterwards Waterloo Railway Station. In digging the canal basin anchors were found, which led the author of the "Book of Bon-Accord" to suppose that the whole estuary of the Dee had once been an arm of the sea, and that ships had been wrecked in it. When, however, we see from the Town Council Register that lime was brought from the Firth of Forth to Aberdeen in boats, another possible reason for finding anchors in the old boat harbour readily suggests itself. Prior to the introduction of iron ships, the latter end of almost every small coasting vessel which escaped the rocks was to be burned in port,

from having sprung a leak in a storm when carrying a cargo of lime. She was in no immediate danger of sinking before reaching a harbour but the seams of her planks were yawning and letting in water so freely that she took fire, and though she reached her harbour nothing could save her from burning to the water's edge.

THE HOLBURN.

The Holburn or burn of the howe has two head waters, the north, which is the greater, coming from Hazelhead through Walker Dam, and the south from Craigiebuckler. The two streams are crossed in going from Rubislaw Quarry to Springbank Cemetery, a little above their junction. The united stream did service in feeding steam-condensing ponds at the now extinct Rubislaw Bleachfield and then flowed eastward. It crosses Forest Avenue and St Swithin Street, and at the bend in Hartington Road it again divides into two branches. The south branch, which is the original burn, keeping the low ground crosses Union Grove and Ashvale Place and passes under Holburn Bridge, built when the Stonehaven turnpike was made early in last century.

The north branch, an artificial mill-lead, goes to the Upper and Lower Justice Mills. At the end of Stanley Street it enters on Albyn Lane, which it follows to Holburn Street. Near the end of the lane may be seen a sluice on the mill-lead. The advantageous situation at the east side of Holburn Street had early led to the erection there of first one mill and then another, both worked one after the other by the same water. The *Chartulary of St Nicholas* mentions the Justice Mill, II. p. 95, and subsequently in 1438 the Justice Mills, p. 102. A tradition of the town says that William Leith of Barns gave the original mill to the town as a peace-offering, that he might be exempted from punishment for killing a baillie. The memory of the slaughter being upheld by a cairn at the spot it is not unlikely that the traditional story is correct; but as the Burgh Records do not go so far back as the time of William Leith, the tradition cannot be confirmed. The "Book of Bon-Accord" says that the name Justice is a corruption of Justiciar, which implies that the King's Justiciar in the north had periodically held Circuit Courts there at a mound, the seat of justice.

Below Holburn Bridge the mill-water rejoins the parent

stream, which thereafter passes under the Hardgate at a bridge called the New Bridge, erected in 1775 when the Hardgate was improved and widened. Above New Bridge a branch of the burn was diverted to the right along Willowbank and Rosebank to drive Ferryhill Mill, originally a meal mill and afterwards a flour mill. A good many years ago it was burned, and after standing long unoccupied it was converted into a glove manufactory. The Town Council got an annual rent for the water-power for several years, but the water was afterwards withdrawn from the mill to save the expense of making a new course for it after leaving the manufactory.

A narrow foot-path called the Old Mill Road came from the lower parts of the town, crossing the Denburn by a wooden bridge in the line of Guild Street. It crossed Dee Street and Bon-Accord Street and descended the brae at the end of Bon-Accord Crescent. It gave citizens in need of a stone or two of meal a short route to the Lower Justice Mill. The path followed the division between different proprietors' lands and had been begun to be used long before houses had been built west of the Denburn.

The mill-burn follows the foot-path down from the mill to the bottom of the brae at Bon-Accord Crescent and then turns south across Springbank Terrace and Rosebank Terrace, and passes under Bon-Accord Bridge. The track of the burn is now covered up from the site of Rubislaw Bleachfield downwards; but, standing on Bon-Accord Bridge, the route of the burn may be distinguished passing to the west of the chimney of the Electric Works.

These now occupy the site of Dee Village, which was between Crown Street and the river. In the end of last century it was a congeries of worn-out, brick, red-tiled houses lying between Dee Village Road and Millburn Street, through which the Holburn or Ferryhill Burn, as it was then called, flowed.

In the previous century the site of Dee Village was a pottery, and the mouth of the burn was called the Potters' Creek. A branch of the burn drove a wheel, and it in turn drove short vertical shafts called potters' wheels, on the top of which earthenware vessels were fashioned by hand. On the north side of the burn there was an extensive brickwork, and near it were banks of laminated clay so steep in the face that sand martins tunnelled long holes in them, where they brought out their young in safety. About the middle of last century the clay was

exhausted, and the railway now passes over the site of the Clayhills Brickwork, the first brickwork at Aberdeen.

At an early date in the history of Aberdeen there was a sheet of water on the site of Dee Village, called the Loch of Dee, which communicated with the river at high water. When the foundation of the chimney of the Electric Works was excavated the skeleton of a red deer was found. It was supposed that the animal had been drowned in a spate of the Dee by being swept off an island, and that it had floated down the river till it was left at high tide where the skeleton was found. The stag's horns were placed in the Aberdeen Art Gallery, to serve as a model for artists.

In recent times the ground at the mouth of the Ferryhill Burn has been raised to a higher level than the tide reaches, and it was greatly extended by diverting the river. The burn passes under Wellington Road, the railway, and Palmerston Road, and crossing Northern Esplanade enters the Dee at the end of Palmerston Place, below Wellington Bridge.

THE POLMUIR BURN.

A little above Wellington Bridge a small stream of water is discharged from a pipe into the river Dee. This is the outlet of the Polmuir Burn, which must have been once a large stream; but its water has been let into sewers at various parts of its course.

As already explained "poll" means a burn, and the muir which it drained had been the heathery ground around the peat moss which once occupied the sites of Aiken's Moss and Roy's Nursery on both sides of Whinhill Road.

The course of the Polmuir Burn is now almost wholly covered up; but it may still be traced by the appearance of the surface of the ground. It drained the northern border of Great Western Road, formerly laid out in nursery and market gardens. The sub-soil is red clay of granitic origin and the rainfall does not readily sink into the ground. In forming Anderson Drive the first beginning of the burn was seen issuing from a small red clay pipe on the west side of the road, about 150 yards up from Great Western Road. It strikes north-east and comes out on Ashley Road at the north-east corner of the school ground. The hollow through which it flows is easily seen where it has not been made up by matting

excavated from the foundations of houses. At a gap in the east side of Forest Avenue its course eastward is indicated by a row of trees which grow on its bank. In Brighton Place it crosses the street between Nos. 43 and 45 on the west side, and 44 and 46 on the east. Behind the gardens on the east it runs on to Ashley House avenue, where it disappears from sight.

From the Ashley School lodge the burn strikes south-east to the top of Nellfield Place and comes out on Great Western Road at a grating in a wall which projects into the pavement. Crossing the street it runs down the west side of Nellfield Place, across Holburn Street, and along the back of a building, once Palmer's Brewery, in the Hardgate. This building stands awkwardly with Holburn Street, but for this the builders were not responsible. It was built before the turnpike road was made, and it stood at the corner where Nellfield Place and Broomhill Road met and was square with both; but the turnpike road cut off the corner obliquely. If the house had been built for a brewery the water of the burn might have been utilised for brewing ale, and possibly also for driving the wheel of a mill for grinding malt.

Leaving Palmer's Brewery, the original course of the burn was along the centre of the deep hollow between the Hardgate and Whinhill Road, formerly called Downie's or Aiken's Moss. On the east side of Whinhill Road there is another hollow formerly well known as Roy's Nursery. The two hollows were originally in one and were occupied by a deep bed of moss, from which the city was supplied with peats; but to give access to Pitmuckston Mill and a few crofts now comprehended in Duthie Park and Allenvale Cemetery an embankment had been thrown across the middle of the hollow many years ago—at least before 1661. At the same time the water of the burn had been diverted to the south to help to drive a mill near the mouth of the Pitmuckston Burn. The track of the mill-water has now been converted into a sewer, which may be traced for some distance along the west side of Whinhill Road. It crosses the railway and joins a main sewer passing through Duthie Park.

To remove the rainfall which might accumulate in the moss, a covered water-way was formed where the embankment was to be laid down, and there may still be seen in Roy's old Nursery a hole once protected by a flagstone, where it could be inspected and cleaned out; but it got out of order and Aiken's Moss, which had been once

arable ground, became a willow bog, much frequented by snipe sixty years ago.

The Polmuir Burn flowed diagonally across the nursery to the junction of Brunswick Place and Polmuir Road, which it thereafter followed till it reached the Dee.

The outfall of the stream which feeds the ponds in Duthie Park may be seen above the railway bridge over the Dee.

THE PITMUCKSTON BURN.

On the margin of the Dee, a hundred yards west of Allenvale Cemetery, is seen the mouth of the Pitmuckston Burn, which took its name from the land through which it flowed. Pitmuckston estate extended on both sides of Holburn Street south of Great Western Road, and the residence on the estate, also called Pitmuckston, was on the east side of Salisbury Terrace, but latterly it was called Pitstruan. Pitmuckston means the place of pigs, being compounded of the Gaelic words "pit," a place, and "muc," genitive plural of "muc," a pig, and the English word "ton," for town, with the insertion of the euphonic "s."

There were in Aberdeen in old times many pigs, which ran about loose, necessitating tradesmen to have half-doors to keep them out of their shops. In summer when the crops were sown the pigs were sent to the suburbs to graze on the stony uncultivated ground, under the care of a common herd. Pettymuck, in Udny, had been a common swine-fold. On Bennachie there is a small hill called Tillymuick, with a large circular enclosure at the top. This had been the swine-fold for all the farmers who had a right to the commony on Bennachie.

In the Acts of the Parliaments of Scotland, I. 12, there is mention of rent rolls found in the Castle of Edinburgh in 1296, showing cows (fat) and pigs payable from Aberdeen as rent to the Crown. Swine figure largely in the Burgh Records. In 1501, when Queen Margaret, wife of James IV., was expected, the following order was issued:—"Na swyne within this brucht, young nor auld, be haldin uteucht (without) band on the forgait for ane fiftene days under the pane of slanchter of the said swyne, escheting of tham and banyssing of tham that aw the samyne." Swine were kept in cruives under the stairs leading up to the doors of the houses. Sometimes they were allowed to take a place at the fireside, just as may be

seen at the present day in cottar houses in Ireland. In 1507 the following edict was issued:—"Nay swyne to be haldin within this toun without band or ane ring in their wort (snout). Na man to have swyne, fyr or elding (fuel) in a hous."

It is not so very long since swine were banished from Aberdeen, and some of the older citizens will remember a negro, Black John, who went about the town leading a "moke" which drew a primitive low-wheeled "waggonette." On it were old herring barrels and pails full of pigs' meat which he collected at private houses and hotels, especially at the Royal Hotel, whieh was in Union Street, about No. 65. John disappeared mysteriously from Aberdeen.

Pitmuckston Burn has three branchees. One beginning near the top of the brae in Seafield Road runs down to Great Western Road, and eastward along it to near Hammerfield Road, which it follows to Broomhill Road. Here it is seen running open along the west side of Broomhill Farm down to the railway. It passes under the railway and runs along the south side of it to Holburn Street, which it crosses near the railway bridge, and then it makes its way in a south-easterly direction to the Dee.

Another branch beginning at Broomhill Road at the end of Salisbury Terrace runs south-east to Holburn Street. It crosses both the street and the railway before they cross one another, and then it joins the first branch in a slight hollow east of Holburn Street. Small as the stream of this burn was (it is now covered up), it drowned a drunk man who, on his way home in a dark night, mistook it for his bed and lay down in it at the roadside.

The third branch used to be seen first where Balmoral Road leaves the Hardgate. It runs south-east till it crosses the railway and then turns south-west. Like all other burns about Aberdeen having a considerable fall, it had early been requisitioned for driving a meal mill. The mill was on the south side of the road going east from Outseats House, and the mill-dam was on the north. As the supply of water was but small it was supplemented by taking in the Polmuir Burn by means of a deep ditch from Aiken's Moss. The infall was above the dam, but this diversion now joins a sewer passing through the north side of Duthie Park. Below the site of the mill the burn runs open still, and on the north side of Riverside Road it is joined by the united stream of the other two branches, and, crossing the road, it enters the Dee.

Before the Bridge of Dee was built, the mouth of the

Pitmuckston Burn was an important place. The Hardgate, the main road to the south, ended there at the Fords of the Dee. There travellers on horseback forded the river and entered on the approach to the Causey of the Cowie Munth. Causey, as already explained, comes from Latin "caleiare," to shoe or protect; and Cowie is from a Gaelic word not yet registered in dictionaries, cognate with Latin "collis," a hill. It is very common in names of hills, as in The Coyles of Muick, Colliehill (both parts of which mean the same thing,) and Glaschoil, the green hill. These names are usually taken from a Gaelic word "coille," a wood, but this is a palpable mistake. Munth—made also Mouth and Muneh—is from the Gaelic "monadh," a hill or moor, cognate with Latin "mons," a hill or mountain.

After crossing the Dee the road kept upwards along the south bank of the river for half a mile, and then it turned south and climbed the Cowie Munth—that is the Grampian Mountains range. In three miles it rose 400 feet, and it crossed a large moss from which peats were long brought to Aberdeen in creels on horseback. In winter the moss was often impassable, and in 1378 Robert II. gave forty shillings per annum from the lands of Findon to make and uphold a causey or hard road across the summit of the hill. By a letter from John Crab, burgess of Aberdeen, to his son it appears that the King expected that the money would serve this purpose and also help to make a bridge over the Dee. The appearance of the bed of the river at the Fords indicates that a solid foundation would have been got there for a bridge, though the current is rapid. The money, however, was insufficient for the upkeep of the road, and in 1634 the burgh got permission from the Privy Council to impose a toll to keep the causey in repair, and to build a port across the road to close it against all who had not paid the toll. The Causey Port was on the old road to Stonehaven, farther west than the modern turnpike road. It was three miles from the Dee and intercepted travellers from the south before entering on the Causey.

THE RUTHRIESTON BURN.

Ruthrieston or Rudrieston means Roderick's town, coming from "Ruadri," the Gaelic for Roderick. This burn has two branches, the east and the west. The east

rises at Beech-hill and flows first north-east and then south-east along the south side of the Countesswells Road to Manofield. Though it runs under cover now its course can easily be seen in a hollow within a hundred yards of the road. It forms the boundary between Old Machar and Banchory-Devenick, the municipal boundary, and the Parliamentary boundary between the city and the county of Aberdeen. At first it is the northern boundary of Springbank Cemetery ; but the entrance gate is across the boundary and within the city. Crossing Great Western Road it holds on in the line of Countesswells Road to Newlands Cottage on Broomhill Road. On the south side of the road there is a small enclosure within which there is a filtering bed for water to feed the ponds in Duthie Park, which is taken off there. The burn crosses the Deeside Railway and takes a straight course to the old bridge on the Hardgate, near the river. The lower part of the course is covered up, but the parapet of a bridge shows where the burn crosses Holburn Street.

The west branch comes from Auchinyell, on the south side of the railway. At first its course is open, but the lower half is covered up. It crosses Holburn Street and passes through a boating and skating pond near the river and then joins the east branch at the old bridge on the Hardgate. Below the bridge the Ruthrieston burn enters the Dee.

SECOND WATER SUPPLY OF ABERDEN.

The Spital Burn and the Westburn were but small streams, and the growing population needed more water for domestic use and more power for making meal. Probably long before 1398, when the Town Council Records begin, and certainly before 1438, an additional supply had been brought from the Denburn, which had been tapped where Gilcomston Dam was afterwards formed though it has vanished now.

The track of the water may still be followed; but, whereas it was originally open and among fields, it is now among streets and houses and wholly covered up. Water is still taken off from the Denburn at the site of Gilcomston Dam and flows along a part of the original course; but it no longer enters the area of the ancient city, and it is now unfit for domestic use. The water-course runs along the south side of Whitehall Place to Albert Street, and then along the south side of Leadside Road. About the middle of the last century the stream of water ran open and was utilised to drive a large undershot wheel for a wool mill in Leadside Road, opposite Grosvenor Place, which was owned by Mr Chadwick.

At Northfield Place, now part of Leadside Road, it was crossed by a bridge on the old Skene Road as it passed through the village of Gilcomston. The road came along Mid Stocket Road, Short Loanings, Jack's Brae, Upper Denburn, and Schoolhill. Jack's Brae took its name from John Jack, farmer at Gilcomston in 1750. Many of the houses of the village are still standing and contrast strongly with the modern houses of Rosemount Place. The selection of the site of the village had been determined by freedom from taxation with an abundant supply of water, and by proximity to the granite quarries on the west side of Craigie Loanings. Francis Douglas, describing a ride to the country made in 1780, says the locality abounded with quarriers and beggars. The former were near their work, and the latter had not been permitted to reside in the city, though no doubt they lived off the inhabitants. Another inducement to live there had been work at a lint mill on the point between Jack's Brae and Leadside Road, erected in 1760. It gave place in 1849 to a meal mill still in operation, but the Denburn water is

no longer fit to do all the work at the point, and it has been largely supplemented by steam and gas.

At South Mount Street the water-course enters on Baker Street, and there till 1902 stood another meal mill, which caused a great commotion in Aberdeen four hundred years ago. When the Town Council acquired at some far-back date the right to take the water of the Denburn they did not buy the land, and they could not prevent the proprietor of Gilcomston from using the water on its way into the town, and he erected a meal mill in 1513 at the top of the brae, at the east end of Baker Street. The mill interfered with the town's monopoly of meal-making for the citizens, and as it could not be stopped heavy penalties were imposed on those who went past the town's mills with their corn to grind; and the farmer tenant of the mill was debarred from getting any of the fulzie of the city to manure his barren, stony fields. The difficulty was solved in 1679, when the town bought the land of Gilcomston. The formation of the dam at Gilcomston may be assigned to the time of the erection of the mill at Baker Street, because the town had a dam of its own called the Loch. The Lower Mill of Gilcomston was on the south side of Baker Street, and in connection with it there was afterwards erected Gilcomston Brewery, for which the mill ground the malt used in brewing. The mill wheel served also to pump from a deep well the water required for the brewery and a distillery attached to it. This had a prejudicial effect on the Well of Gilcomston, a strong spring on the North side of Baker Street, which had been pressed into the service of the town. It now sends water only to the Well of Spa and a watering trough at the end of the Infirmary.

The brewery and the mill were afterwards given up, and after standing long idle they were completely removed in 1902. When the mill was taken down, there were seen in it separate pairs of stones for grinding oats, wheat, barley, and malt.

The fall of water at the mill wheel was in the eighteenth century sometimes turned to another purpose which seems almost incredible now. At that time, the treatment thought best for violent lunatics was heroic, sometimes even barbarous. They were chained, flogged—even the insane King George III. was flogged—starved, bled, blistered, whirled round on revolving tables, and soured with dashes of cold water. We should have liked to think that such things were not done in Aberdeen; but in the

Royal Infirmary there are stone paved cells in which violent lunatics were confined a hundred years ago, before the Lunatic Asylum was built: and as a remedial treatment for the head, the seat of their malady, they were sometimes placed under the fall of water at the Lower Mill of Gileomston.

Leaving the mill the water crossed the street and after a short run at the foot of a bank with a hedge upon it Skene Square was crossed at the end of the last house in Gilcomston Steps. It bears the date 1762, and it is believed to be the oldest house in the place. The Steps of Gilcomston were large stones in the mill-lead at the upper end of the street called Gilcomston Steps. At the lower end the Spa Burn was crossed by a shallow ford for horses and a foot-bridge for passengers. The water still passes under the first house in Skene Square, crossing the railway in a large overhead pipe. Holding first north, then east, it crosses Maberly Street and supplies water to a pond at Broadford Works, a service formerly done by the Gilcomston Burn till about 1860. It returns to Maberly Street, crossing it at Charlotte Street, and being now joined by the Westburn, or Gilcomston Burn, it returns to the Denburn at the end of Spa Street. But formerly it had more work to do. In a chamber under the pavement in Maberly Street, which may be explored by entering a gate in a wall on the south side of the street, the Spital Burn and the Westburn were joined by the new water supply from the Denburn.

For a while during last century a portion of the water was diverted down Charlotte Street to drive a wheel in the House of Refuge in Crooked Lane, and another portion was sent along Maberly Street and George Street, after which it went down Correction Wynd to scour woollens in Hadden's factory in the Green; but for hundreds of years the main part of the water was sent eastward along the south side of Maberly Street and Spring Garden as far as Loch Street. The new supply was much greater than the first, but it was at a low level, higher however, than that of the Loeh, from which it was separated by a bank. For a long time it ran open, but in 1838 it was covered with long stones which made a foot-walk along the west side of the street. Many of these still remain in their places, though the stream no longer flows beneath them. At Loch Street the burn turned south, and widened out into a broad mill-dam, with a bank of earth between it and the Loch to raise the level of the dam.

The original Loch had become only a marsh when its feeders were shut out from it, and then the mill-dam came to be called the Loch. At the lower end there was a sluice called the Loch E'e, and here much washing was done and rowdy behaviour was indulged in. To put a stop to it a watch was set at the burn head for "banners and swearers." Another sluice opened on a ditch going round the south and the west sides of the Loch and carried away the spill-water, ending at the outflow at Gilcomston Steps. The Town Council assigned to waulkers and litsters a place for their operations on the short burn between the Loch and Gilcomston Steps, to prevent pollution of the water supply.

The ditch between the Loch E'e and the outflow was intended to drain the Loch; but Gordon's map in 1661 shows a burn flowing round the whole Loch like Styx round Hades, and over the burn on the west side there is inscribed:—"The draught of the Burne which entereth the Citie." In this he is certainly wrong, for Sir Samuel Forbes in 1715 says that the east burn was the water supply. The levels also are against him. The ground on the west side of the marsh was six or seven feet lower than that on the east side. At the south end of the Loch there were tanners' pits on the east of George Street, to which water had been admitted by one of the sluices. These pits gave the name Tannery Street to the narrow part of George Street.

The mill-burn issued from the dam by the Loch E'e, and entered an archway in a house on which there is an Ordnance Survey mark, 58.7 feet above the sea, exactly the same as the level of the south end of Broad Street; but it is not likely that the new supply had been intended to drive the mill there. The mill-burn ran along the east side of Burn Court, and came out at No. 48 Upperkirkgate, outside the port, though in "The Book of Bon-Accord" the port is said to have been on the west side of the burn. It crossed the street spanned by a bridge and entered Lamond's Court, No 45, now closed. At Barnett's Close it turned west and drove a wheel, which served first a meal mill and afterwards a flour mill. This was the Upper Mill, which continued to work till 1865. Having no houses to avoid the burn crossed diagonally Flour-mill Brae, the east side of St Nicholas Street, and the Netherkirkgate, which once extended to the east gate of the churchyard. An iron plate at the junction of Netherkirkgate and St Nicholas Street marks the site of the Little Bow Brig over the burn. It crossed to No. 15 St

Nicholas Street and passed under it in the basement. Its course was seen in 1903, when an old house was taken down, and a new one was founded deeper than the old. The burn-course was found to be three feet wide, with edges of well-dressed granite blocks cemented with mastic. The burn here sent off a branch to the west, which had been intended for a spill-water or to divert the burn when it was not required for the Mid Mill. There is no trace of the west branch in Gordon's map, 1661, but the two burns are mentioned in the *Chartulary of St Nicholas* (II. 51, 73), in the fifteenth century; and both are shown on Taylor's map, 1773, and Milne's 1789, in the triangular block of buildings in the east part of the Green.

In the foundation charter of the Hospital dedicated to St Thomas, 1459, the mill-burn is given as the east boundary of the ground belonging to it, Correction Wynd as the west, and Netherkirkgate as the North. Correction Wynd got its name from a House of Correction in the Wynd, where culprits had to work at weaving woollen fabrics. It stopped work in 1711, but so long as it was carried on it might have utilised the west branch of the burn. The west branch crossed St Nicholas Lane and Union Street, passing under No 95 and the west end of the Market, rejoining the east branch at the Nether Mill.

The east branch passed under the house in St Nicholas Street called the Lemon Tree Bar, crossed St Nicholas Lane, and passed under the Commercial Bank office. Originally it descended the steep bank on the north side of the Green and ran straight to the Nether Mill; but in 1619 the Town Council, anxious to make as much as possible out of its motive power, erected the Mid Mill in a house on the east side of the burn. An entry in the Council Register notes a payment for refreshment on the occasion of buying the house to be used for the mill. It was at first a meal mill, but afterwards it was converted into a malt mill. Though mentioned in the letterpress on Gordon's map, its position is not shown; but we see it in Milne's map. It is in it 60 feet from the East Green, which would bring it to the centre of Union Street, in front of the Commercial Bank, and it had been buried up when Union Street was formed.

The water, however, was not lost. It was conveyed in a tunnel still in existence under Union Street, and in the basement of the house opposite the bank it drove a glass cutter's wheel for some time. It crossed the East Green,

and passed under the Market when it was built in 1842. This was the first house built between Market Street and Union Bridge. It was built by a druggist to utilise the mill-burn for grinding drugs. It crossed Fisher Row, where Hadden Street is now, and crossing Exchange Street obliquely it drove the Nether Mill, which stood on the south of the site of the North of Scotland Bank. At first the Nether Mill was a meal mill, then it was converted into a malt mill, and afterwards into a sawmill; and the little bridge by which it was crossed in Fisher Row was called the Maut Mill Brig. Fisher Row sloped down from the Green to the end of the Shiprow, but it was held as ending at the Brig. Having done its work at the Nether Mill the burn rounded the west end of the Trinity Friars' grounds, and about the end of Exchange Street rejoined the Denburn, which it had left at Gilcomston Dam. The united stream latterly ended in the north-west corner of the Upper Dock.

When the increasing importation of flour from America rendered the working of small flour mills unprofitable in this country, the Upper Mill was sold and the mill was removed. There was then no necessity for sending water along the old track, and now, after crossing Maberly Street, the Westburn and the water taken off at Gilcomston Dam turn south alongside the old Comb-Work and join the Denburn at the end of Spa Street, at a place called Rotten Holes in Gordon's Map. This name is composed of two Gaelic words, both of which mean hill. The name refers to the brae on the north side of the burn.

Taylor's map of Aberdeen shows the small Putachie stream joining the mill-burn near Trinity Hospital, below the Nether Mill.

THE ROYALTY.

By a royalty is meant the area defined in a Royal Charter conferring on the householders residing within its bounds privileges of trade and self-government. It is called a Royal Burgh, and its householders are called burgesses. Some royal burghs have no extant charter. The charter may have been lost, or it may never have been committed to writing, just as there are many Acts of Parliament which were never printed. The area might have been defined by some natural features such as the sea, a watershed, rivers or burns, or by roads and the boundaries of circumjacent estates; and it may have sometimes been left to some extent undefined to allow for expansion as the population grew. It is supposed that the environs of every royal castle had burghal rights and privileges, if the inhabitants chose to exercise them, though the burgh never had its bounds defined in a written charter. The castle of Fyvie seems to have been a royal residence in the thirteenth century, and in the next century there is mention of the burgh of Fyvie. The maills were £10.

When a town was erected into a royal burgh any person wishing to exercise the rights conferred by the charter had to undertake to watch and ward for the burgh, and to undertake to pay maill or rent to the Crown. The burgh maills and custom dues formed a considerable part of the royal revenue, and they were an inducement to kings to grant Royal Charters.

It is allowed on all hands that though Aberdeen has not now an extant charter erecting it into a royal burgh—perhaps it never was in existence—it was made a royal burgh by David I. (1124-1153), if it had been made a burgh by Alexander I. (1107-1124), as seems likely from the Book of the Church of Sccone, p. 2. As the burgh had to make annual payments to the Crown it required to have some sources of income. One of these was feu-duties from lands given to the burgh by the Crown and feu'd out to the burgesses, and another was local taxes called “customs” levied on goods brought within the burgh boundaries.

ROYALTY BOUNDARIES.

The burn called in the lower part of its course the Ferryhill Burn, farther up the Holburn and in the upper part of its course the West Rubislaw Burn, is the south-

west boundary of the royal burgh of Aberdeen. Beginning at the mouth of the burn, 400 yards north from Wellington Bridge, the boundary ascends the burn to South Bridge, but the burn is now covered up from its mouth to the side of Rubislaw Works. Passing under the bridge the boundary turns north-east and cuts off both corners of Ashvale Place and goes along the west side of Holburn Street to Alford Lane. It follows the east side of the lane and crossing Alford Place comes to a boundary stone at No 7. Here the boundary formerly ended in the cornfields, which up till near the middle of last century extended to the west side of Rose Street. There never was anything but the divisions between fields to mark the boundary from Alford Place to Skene Street. It may be traced on the 25-inch Ordnance Survey plan of the city, going north-east from Alford Place to a bend in Thistle Place, then along this street to another bend. There the street turns north but the boundary goes farther east and then turns north. It crosses Thistle Street between Thistle Place and Rose Street, and afterwards turns west to Thistle Lane, which it follows till Margaret Street is passed. Then it strikes north-east and emerges on Skene Street at a lane between Thistle Lane and Rose Street. The boundary crosses Skene Street at the east side of the entrance to the Grammar School, and it crosses also the Denburn now covered up. Crossing Esslemont Avenue it runs along the north side of the houses and gardens sloping down to the burn at Mackie Place.

A colony of rooks nesting in the trees in Cherryvale are probably the lineal descendants of some which built there when it was on the outskirts of the town. It comes to Jack's Brae at March Lane, which gets that name from being on the march of the Royalty. The boundary then follows the north side of Upper Denburn eastward to Rosemount Viaduct. Passing under the bridge it leaves the street, and brings within the royalty the houses with their grounds and back premises in Upper Denburn and Spa Street. Amongst these are the houses in Garden Nook Close, called also The Four Neukit Garden, which four hundred years ago was the favourite suburban retreat of Jamesone the painter. Jamesone went to Antwerp to study under Rubens, and there he had seen gardens with summer houses, and on his return to Scotland he had reproduced what he had seen abroad. The Garden Nook has its entrance from Upper Denburn. Formerly there was another from Spa Street opposite the Well, and James

Gordon says:—"Hard by [the well] there is a four squair feild, which of old served for a theater, since made a gardyne for pleasur by the industrie and expense of George Jamesone, ane ingenious paynter quho did sett up therein ane timber hous paynted all over with his own hand." The Spa Street entrance was in the line of the south front of the Infirmary.

At Raeburn Place the royalty boundary turns back, westward, as far as the south-east end of Gilcomston Place. There it comes upon the ancient aqueduct called the "lead" or lade going to water the town. It is an argument in favour of the great antiquity of this aqueduct that from Gilcomston Place the royalty follows it to Maberly Street, as if the boundary of the Royal Burgh had been made by a pre-existing water course. At Gilcomston Place the boundary returns upon itself at a sharp angle and takes into the royalty a long, sharp-pointed, narrow strip of land. On it were the famous mill of Gilcomston and a well from which water was afterwards taken into the town. It is possible that this piece of land had not originally been within the royalty but had been taken in when Gilcomston mill became the property of the town.

Leaving Baker Street, the royalty boundary follows the water-course along the bottom of a hawthorn hedge, and crosses the street at the division between Gilcomston Steps and Skene Square. The original form of this name was Skene's Square, which was given to a plot of ground surrounded by dwelling-houses in the angle between Rosemount Place and Skene Square, now the site of a school. Passing through a gap between the houses on the east side of the street the water of the aqueduct crosses the railway in an overhead pipe which conducts it to Maberly Street. Here the aqueduct is diverted to feed steam-condensing ponds at Broadford Flax Works; but the royalty boundary follows that of St Nicholas Parish, and crossing Maberly Street ascends the Westburn, crosses Hutcheon Street, and passes along the west side of the Meat Market till it comes to the now dry course of the Froghall or Spital Burn, which the boundary follows to Jute Street.

Turning east the course of the old Froghall Burn passed upwards through the north end of the Meat Market, crossing George Street at No 466, and passing along the south ends of the feus in Charles Street it reached Causewayend between Nos 87 and 91. It crossed this street at its lowest part, where formerly there was a ford and, at the

end of a house on which "Causewayend" is painted, it passed through the long narrow point separating it from Canal Road. It left Canal Road at No 14, and turned north along the backs of the houses on the east side of the street. At Milne's Preserved Provision Works the royalty boundary, still ascending the course of the burn, strikes north-east across the railway and Jute Street. Near the east end of the Granite Works it leaves the course of the Spital Burn and, following the ancient boundary between the lands belonging to the town and those belonging to St Peter's Hospital, it crosses King's Crescent at No 37 where there is a division in the wall on the west side of the Street.

By Taylor's Map we see that in 1773 a small stream flowed eastward a little to the south of Love Lane, which name has now given place as St Peter's Street. This stream formed the north boundary of the royalty and of St Nicholas Parish. It is now lost to sight, but its course was along the north side of the quadrangle of the Militia Barracks. It crossed King Street at the north end of a belt of trees on the east side of the street, and it held north-east, passing the gasometer on the north side. Originally the boundary had been visible to the eye, because it followed the lowest line in the hollow. On reaching the Links the small burn was called the Banstickle burn. It turned north and joined the Powis or Tile burn near the Brick Work.

Some people think that the royalty boundary holds on in the same general direction from King Street to the sea, following the lowest line in the hollow between the Pittodrie Football ground and the gasometer ground to the Links Well, and crossing the Links in the same direction seaward. The Ordnance Survey map makes the boundary of the royalty turn north along the east end of Pittodrie Park and the east side of Linksfield Manure Works, and thence along the course of the Powis or Tile Burn to the Don. The Town Council of Aberdeen has placed boundary stones on this line (one has recently disappeared), and it claims that the royalty extends on the north to the Don. The ground for making the royalty extend to the mouth of the Don may be found in the false idea, generally entertained long ago, that near its mouth the Don bent south till it was near the Broad Hill and then turned east to the sea. Both Gordon's and Taylor's Maps mention this belief, and Milne's Map (1746) has the mouth of the Don as far south as the Manure Works.

There are two natural forces at work, one tending to

put the river mouth straight east from the Bridge of Don, and the other to put it farther south. When the river is in flood its tendency is to hold on a straight course to the sea. In the North Sea the fiercest storms come from the north-east, and the waves tend to shift the mouths of the rivers entering the south side of the Moray Firth westward, and the mouths of those entering the sea on the east of Aberdeenshire southward. The mouth of the Deveron is frequently altered; sometimes it is closed and has to be opened to let salmon enter. The mouth of the Ugie cannot be shifted farther south, the coast being rocky; but the mouth of the Ythan is curved southward, and the mouth of the Dee used to be frequently closed before the North Pier was erected. It would in like manner be a thing to be expected that the mouth of the Don should sometimes be closed in storms or driven southward. Looking, however, at the great size of the blown sand hills on the south side of the Don mouth and their diminishing size southward it seems clear that the mouth of the Don has as a rule been where it is at present. The sand hills are formed by east winds out of sand brought down by the river and then spread out on the shore by sea waves, and finally blown inward in tempestuous gales. Gordon does not say that there was any evidence that the Don once entered the sea near the Broad Hill.

The royalty is bounded on the east by the North Sea, and on the south by the river Dee from its mouth to the Ferryhill Burn.

CUSTOM STATIONS.

Till Whitsunday, 1880, small dues called petty customs were levied on produce brought into the town. There were stations on the roads where they crossed the royalty boundary. One was in Holburn Street beside Justice Mill, where dues on the produce of Deeside were collected by a man in a wooden sentry-box. There was another in Alford place, on the east side of Victoria Street, for produce from Skene and Echt. There was one on the site of Melville U.F. Church; one on the point between Gilcomston Steps and Gilcomston Brae; and another in George Street on the site of the Meat Market, where the Customar could keep his eye also on Hutcheon Street. There was one on the point between Mounthooly and West North Street, and another in the east side of King Street, opposite the end of Nelson Street, and another in

Wellington Road. The Ferryhill Burn is the limit of the royalty and there was a Custom Box near the bridge on the road from Nigg, crossing the Dee at Wellington Bridge. The tax on a boll meal was 3d, oats $2\frac{1}{2}$ d, a peck of berries or any less quantity $\frac{1}{2}$ d, a stone of butter 1d, cheese $\frac{1}{2}$ d, a back birn of candle fir $\frac{1}{4}$ d, a horse load in creels $\frac{1}{2}$ d, a cart load $1\frac{1}{2}$ d, four dozen of eggs $\frac{1}{2}$ d, etc. When the Petty Customs were abolished the city Corporation had to make up the loss of income by a corresponding increase of the taxes levied on rental, and the amount of the compensation is still shown annually in the accounts of the burgh.

RELIGIOUS INSTITUTIONS.

ST NICHOLAS PARISH AND CHURCH.

If we look at a map showing the parish of St Nicholas and the original parish of St Machar—embracing Old Machar, Newmachar, and Newhills—we see that the one represents a small area adapted for a manufacturing, trading, fishing, maritime community; and the other an extensive purely agricultural district. There is nothing on the map to indicate that they were originally one parish. When the history of the burgh begins we find the inhabitants self-contained, self-satisfied, and exceedingly jealous of external interference with their municipal privileges; and thus we are led to the conclusion that the town area and the country area had never been one undivided parish.

THE TOWN.

When the parish of St Nicholas was instituted in the beginning of the twelfth century, Aberdeen had been comprehended within Market Street, St Nicholas Street, Upperkirkgate, Littlejohn Street, West North Street, King Street, and Marischal Street. The southern boundary had been the Denburn, whose bed is now covered by Trinity Quay and Regent Quay. A row of houses had extended along the north side of the Green, but the name Putachie, which means fold at a burn, indicates that the Green (on both sides of the Denburn) had been the pasture ground of the citizens' cows and that a fold had been provided for them at the burn side as it ran down Market Street to the Denburn.

THE CHURCH.

The Church of St Nicholas was set down on a raised platform ending at a steep brae sloping down to the Green on the south and to Correction Wynd on the east. It was approached by four roads. The Back Wynd from the west end of the Green was a steep lane, of which the south end still remains in its original condition. Correc-

tion Wynd accommodated the inhabitants of the east end of the Green. The Netherkirkgate gave the inhabitants of the Castlegate and the south end of the Broadgate access to the east gate of the churchyard, and the Upper-kirkgate gave the inhabitants of the Gallowgate access to the north gate.

Some maintain that the Crown constituted bishoprics and set over them bishops to subdivide them into parishes and procure the erection of a church in each parish; but, however this may have been in other parts of Scotland, in the north-east churches and parishes had preceded the diocese and the bishop, for the revenues of the parishes of St Nicholas and St Machar were assigned to the two principal officials of the diocese of Aberdon. The erection of the two parishes of St Nicholas and St Machar had been as early as that of any other parish—say 1100 A.D. The diocese of Aberdon was instituted before 1132, and the parish priest of St Nicholas was appointed bishop of the diocese. This arrangement lasted till the Reformation, so that all the Catholic bishops were rectors of the parish of St Nicholas.

The spurious bull ascribed to Pope Adrian IV. mentions among the revenues of the Cathedral the incomes of the Church of Abbirdein, the Church of St Machar, and also the Church of St Nicholas of Abbirdone. The Church of St Machar we know, and the Church of St Nicholas we know; but it puzzles the dons to locate another church of Abbirdein or of Abbirdone. Giry, a modern French writer on charters, papal bulls, and letters patent, says it is easy for forgers to follow closely proper forms and to be accurate in important matters, but that they have a weakness for entering into minute details, and it is therefore by mistakes in trivial things that they can most easily be detected. The church of the city was known at home as the Church of St Nicholas, and abroad as the Church of Aberdeen. In 1157, the date assigned to the bull, there were in Aberdon and Aberdeen two churches—the Church of St Machar and the Church of St Nicholas or Aberdeen—and no more. Any person who, with Cosmo Innes, asserts that the bull is “undeniably authentic” must explain away the third church. In the Book of the Church of Scone the name of the city is made Aberdon in the foundation church of the Abbey of Scone. This mistake indicates that the Cathedral had been instituted before 1113 or 1114.

After the establishment of the Cathedral the bishops

must have for some time directed the business of their own churches. Then came a time when the bishops seem to have been drawing the revenues of St Nicholas but taking no concern with the service of the church. In 1345 Bishop William Deyn, recognising that this was against the law of the Catholic Church, set apart from the revenue of St Nicholas ten merks annually to be a stipend to a vicar. In 1488 there is mention of a curate, who was a different official from the vicar.

The first authentic notice of the existence of St Nicholas Church is in 1294, when two burgesses of Aberdeen endowed a chaplainry at the Altar of St John because they had come into possession of lands bequeathed for that purpose by Richard, a mason ("Registrum Ep. Aberdon", I. 35). A statement of the rental of the altar of St John, dated 1501, mentions that the altar was founded by Richard in 1267 (Chartulary of St Nicholas, I. 50). To this altar belonged a croft from which flowed a spring called St John's Fountain.

In 1340, William de Strabroch, Burgess of Abirden and laird of Foveran, conveyed by charter to the altar of St James in the Church of St Nicholas six merks annually for providing a chaplain ("Registrum," I. 67). The payment was made a burden on a property in the Castle-gate, held of the king for public military service, the usual mode of holding feus in a burgh. This charter proves that a memorandum of benefactions in the Chartulary of St Nicholas (I. 12-18) cannot be trusted in the matter of dates, for it puts this gift in 1401. The memorandum states also that in 1351 William Leith gave to the church two great bells named Lawrence and Maria. Next year he presented to the church a sacerdotal vestment of blue velvet; and in 1355, with the help of other citizens, he built a choir on the south side of the nave, extending from St Leonard's altar to the west end of the nave, and he bequeathed a sum of money to build a similar choir on the north side of the nave. Choir, in the common use of the term with us, means the singers or the place where they sit; but occasionally, as it does here, it means an aisle or extension of the nave. These aisles had been fitted up as small chapels, each containing an altar. The windows on the sides of the nave had been taken out, and each window space had been made the entrance to a little chapel. This had been done because there had been a desire among wealthy people to have an altar to which they assigned annual revenues from houses

and lands to support a chaplain, who should in all time to come say prayers weekly for them and their families. Upwards of thirty altars are named as having been in St Nicholas Church. They were the means of supporting a large staff of chaplains.

THE NAVE.

From sketches of the church in Gordon's Map of 1661 we see that it consisted of three parts—a nave, two transepts, and a choir. Along the south side of the nave extended an aisle with its roof sloping from the wall of the nave. At the distance of one bay from the west end we see the wedding door. The aisle does not come close up to the south transept, because the eastmost bay was required for a door into the nave. It is mentioned that there was a window in the east end of the aisle. There had been, after William Leith's death, an aisle along the north side of the nave.

THE TRANSEPTS.

The transepts rose higher than the nave, and they had windows of large size in their gables. The south transept was called the Choir of the Virgin Mary, because in the east side of it there was a long altar dedicated to her. To the south end of this transept there was added sixteen feet to afford space for another altar dedicated to SS. Lawrence and Ninian. The memorandum of benefactions says it was built in 1356 by William Leith; but in "Antiquities of Aberdeen and Banff" (III. 43) there is a copy of a charter (dated 1342) in the charter chest of Fyvie Castle endowing a chaplain to officiate at the altar. This charter was given by William Meldrum to provide for soul masses for him and his relations. It shows that the altar was founded before 1356; but William Leith may have built the addition to the south choir and erected the altar, and arranged with William Meldrum to endow it. A brass tablet in the west side of Drum's Aisle was put up in 1836 to the memory of William Leith in the belief that he was buried near it, but as he was buried in front of the altar of SS. Lawrence and Ninian his tomb must be much farther south and farther east than the tablet. Leith regarded St Lawrence as his patron, and besides naming a bell after him, he named his eldest son

Lawrence. Between the two transepts rose the lofty church spire, resting on four arches supported by four pillars, well buttressed by the side walls of the transepts. There was a door with a porch in the east side of the south transept.

THE CHOIR.

The choir seen in Gordon's sketches is not the original one. From remains of its foundation laid bare in 1837 the first choir had been a narrower shorter building, with a round apse. The demand for private altars had called for a larger chancel, and an enlarged new building was provided and opened in 1498. It had been about half a century in building, having apparently been begun in the time of Bishop Ingelram (1440-1459). No doubt he—as parson of St Nicholas—had contributed to the work, and his successor Thomas Spens (1459-1480) gave his second tithes annually; but the next bishop, Robert Blackader, offended the town by refusing to do likewise.

Before the new choir was begun St Mary's Chapel was built at the east end of the choir, on a site excavated in the steep bank. It afforded space for three or four altars. When the new choir was built its east end extended over this chapel, and there was a stair from the aisles of the choir down to the chapel. Gordon's sketch shows that the new choir had aisles, which had been occupied by small chapels.

THE REFORMATION.

Though there is in Aberdeen records very little notice of the Reformation till the year before it was ratified by Parliament there are in the Chartulary of St Nicholas some indications of want of harmony between the Church and the people. There is observable on the part of the citizens a reluctance to pay annual dues from properties for religious services, founded by their ancestors; and on the part of the ecclesiastics there was poinding for these dues. After the Reformation it appears from cleansings and repairs which were necessary that the fabric of the church had been neglected and that filth and rubbish had been allowed to accumulate in and around the church. In the beginning of 1560, the lairds of Mearns and Angus came to Aberdeen and, having destroyed some of the convents, were proceeding to attack the church, but they were driven off. Some lead had been stolen from parts of

the roof, which had to be temporarily replaced by divots, but lead was got from Berwick to repair the roof properly.

THE WEST CHURCH.

Before the Reformation some change had been made on the west end of the nave. There was originally a door in it; but in 1537 the west gable was taken down and rebuilt with a window. After the Reformation masses in the little chapels had been prohibited, and the altars had been removed. Structural repairs being required, little attention had been paid to the interior for a time. In the Jesus Chapel, on the west of the wedding door, the back of the altar was not removed till 1584, and the window in the chapel being broken the floor was covered with earth and grass-grown. By and by the church was got into repair and cleaned out, and the accounts show that there had been a large congregation. At the Revolution in 1688 King William had not made up his mind to abolish Episcopacy, and before the abolition came in 1689 the ministers of Aberdeen had resolved to adhere to the old form. They were deprived of their livings, but many of their congregations followed their example and became Nonconformists. The old St Nicholas Church in the nave being depleted of its congregation was neglected and became so ruinous that it was abandoned in 1732; but the congregation was accommodated in the Trinity Church by arrangement between the Incorporated Trades and the Magistrates ("Hammermen's Court Book"). In 1746 it was occupied by the Duke of Cumberland when on his way to Culloden, and it continued to lie in ruins till 1750, when it was rebuilt. It was opened in 1755 under the name of the West Church.

THE EAST CHURCH.

After the Reformation the choir was separated from the transept by a stone wall. It now became an ordinary preaching church and was called the New Church; but by 1837 it was counted old, and it was taken down and rebuilt and was called the East Church. It was brilliantly lighted at night by a device called a sunlight, placed in the ceiling. There was a large number of jets of gas under a reflector filled with water to keep it cool. Unfortunately, in 1874,

the water on one occasion became exhausted and the roof took fire, causing the destruction of the church and the steeple. By the fall of the steeple the bell called Lowrie was smashed. The fragments were bought by John Blaikie and Sons, who made them into a bell for Maunofield Church. One fragment may still be seen hanging on a pyramid in Union Terrace Gardens. In two years the damage had been made good, and the church was reopened in 1876.

THE MONASTERIES.

THE TRINITARIANS.

These were mendicant friars, so named because they put themselves under the patronage of the Holy Trinity. The object of their Order was the rescue of captives from the pirates of Morocco, and their official designation was:—“Ordo Sanctae Trinitatis et Captorum,” the Order of the Holy Trinity and of the Captives. The Order was instituted by Pope Innocent III. in 1197 under the rule of the Austin Friars. They wore a white robe, on the breast of which there was a cross with four equal swallow-tailed arms, divided longitudinally into two halves, alternately red and blue. They collected money to ransom captives taken by Barbary and Morocco pirates, and probably they had better means than other persons of knowing when and where there were captives from near their monasteries.

The Trinitarians were brought to Aberdeen by William the Lion in 1211, and settled close to what was the harbour at the time. The place assigned to the Trinitarians was on the west side of Market Street and on the north side of Guild Street, then the bed of the Denburn. The tide at that time came far up the burn, and Gordon's chart shows a creek or small harbour in the angle between Market Street and Trinity Quay, faced with a wall. It is usually said that King William gave the Trinitarians a residence which he occupied himself when he came to Aberdeen. It appears, however, that he had a residence in Aberdeen after the settlement of the Trinitarians. The church of the monastery was a long building, probably exactly where the later but now disused Trinity Church stands, and west of it there was a large garden or enclosure surrounded by a wall.

The houses of the Trinitarians were denominated hospitals, and the title of one of the missing charters in Robertson's "Index":—"Carta Hospitalis de Aberdeen," Charter of the Hospital of Aberdeen, probably refers to a gift of land to Trinity Friars Monastery in Aberdeen in 1296. It would have been fatal to their usefulness to accumulate wealth, but they received some bequests of annuities. One was a grant of ten merks annually from the island of Stroma, lying off John o' Groat's House. This was given by the Earl of Caithness, and it seems likely that this bequest had been given in gratitude for the services of the Trinitarians to some Orkney captives.

The Trinitarians held on their beneficent way till the last days of 1559, when their convent was attacked by an armed rabble from Angus and Mearns. The first steps taken by the aggressors were to strip the church of its crosses, sacred symbols and ornaments, and to expel the priests. Friar Francis, who may have offered some resistance, was killed and his body was thrown into a fire likely made with the furniture of the church and the monastery. The Town Council prevented the destruction of the monastery and the church till they and all the properties and rents of the Trinitarians were declared to belong to the Crown. The Church, however, seems to have been used for divine worship after the Reformation. An entry in the Kirk and Bridge Accounts in 1600 says:—"Item payt to Sande Forbes for ane breid flag steyn whereoff is inaid ane brig over the burne besyd the vnermyll (nether mill) where the minister passes" (Chartulary of St Nicholas II. 398).

The Trinity Monastery and all its belongings were bought by Dr William Guild, one of the town's ministers, and presented by him in 1633 to the Incorporated Trades. When the Church of St Nicholas became ruinous and was deserted by its congregation they were accommodated in Trinity Church till the West Church was built. It continued, however, to be used as a church, and having itself become ruinous it was taken down in 1794 and rebuilt. In 1606 the Town Council granted a shipbuilder permission to build a ship in Trinity Churchyard, then lying unenclosed. It had been a very convenient spot for getting the ship into the water after she was built. In making excavations in 1906 for the foundation of a house at the corner of Market Street a coffin was met with in one place and some of the timbers of a ship in

another. The Trinity convent is commemorated by the name Trinity Quay, which once extended up Guild Street as far as the convent ground had gone.

THE DOMINICANS.

St Dominic, the founder of this Order of Friars, was born in 1170 in Spain. He did not come into public notice till he was twenty-five years of age and, after ten years at the University of Salamanca, had become a canon in a cathedral. He made himself distinguished by the fervour of his preaching and the severity of his asceticism. Having gone on an embassy to Denmark he was so impressed by the corruption of the clergy and the declension of the people from the faith of the Church that in 1216 he founded an Order of mendicant friars devoted to preaching and practising poverty, chastity, and obedience. The Order adopted for a distinguishing dress a white robe and hood when within their cloister, with a black cloak and hood over it when they went outside their gates; and hence they were popularly called the Black Friars. The Order speedily extended over Christendom. Its preachers and teachers became famous, and from its schools sprang popes, cardinals, and learned doctors, among the latter Thomas Aquinas. John Adam, Prior of the Order in Aberdeen, was the first who took the degree of doctor of divinity in King's College.

The Dominicans were brought to Aberdeen by Alexander II. (1214-49), who gave them a large piece of ground with a house on it, lying between Schoolhill and the Loch. The west boundary of their ground extended to the back of the houses in Blackfriars Street, and the east approached Harriet Street. Within this area they built a "very splendid" monastery and church. They had got a supply of water from a deep well. In the course of excavations made in 1833 some remains of the monastery were found, from which it appeared that the front was 60 feet long and faced the south. Among the ruins there was found a gold ring and also a small hollow silver heart-shaped ornament, with a ring for suspending it from the neck. It fell into the possession of Mr George Melvin, one of the masters of Gordon's Hospital and afterwards schoolmaster of Tarves. It was bequeathed by him to the parish, and it is now in Tarves Museum. It measures with the ring an inch and a half in length and an inch in width.

The monastery and the church were dedicated to John the Baptist, and the small knoll at the east side of Schoolhill Station is called St John's Hill on Gordon's chart. The brethren received in 1397 a gift of land at the Boat of Kintore from John Keith for religious services for him and his relations. Kings of Scotland and private citizens in Aberdeen made gifts of crofts and houses and annuities to them. They were patronised by the Keiths, Earls Marischal, and they had an annuity of £10 from the barony of Dunnottar for soul masses for members of the family, who most probably were buried within the church of the monastery. The silver heart had been an ornament worn by one of the ladies of the Keith family. The Friary prospered and became wealthy. This led to luxury and indulgence; but some reforms were made in the priorate of John Adams (1503-08).

The Dominicans devoted their learning, eloquence, and energy to the reformation of the Catholic Church from the Conservative point of view. Hence their order was particularly obnoxious to the Scotch Protestant Reformers, and one of the first acts of violence in the Reformation was the destruction of their monastery at Perth in 1559. In the last days of that year the interiors of the church and monastery in Aberdeen were plundered and destroyed, and the inmates were expelled. The Town Council took possession of the buildings in the interests of education and religion and retained them till the Crown disposed of them in 1565-6, along with the other property of the Order. After passing through various hands they came into the possession of George, Earl Marischal, in 1587, and in 1593 he made them over as an endowment to the New College and University which he founded in the Greyfriars Monastery. From a Crown charter granted to the Earl in 1592 ("Records of Marischal College," I. 4-7) we see that the place of the Blackfriars then consisted of three portions, namely, the monastery and church [with its cemetery] and other subsidiary buildings—barn, kiln, and pigeon-house, with garden and orchard; an incroft lying to the west of the monastery and included within the same walls; and the yard croft, lying between the wall on the south and the Loch on the north. These parts are shown on Gordon's chart, 1661. When the monks were expelled in January, 1560, Friar Abercromby took with him the writings connected with the properties of the Order, and they were not recovered till 1617. The University had to get decrets in court against the

numerous occupants of the properties before it could establish its rights and get payment of rents.

In 1732 the University feued the Blackfriars property between the Schoolhill and the Loch to the Town Council, to be the site of Gordon's Hospital, and in 1883 a part of the hospital ground was parted with to the Town Council, for the site of an Art Gallery which was opened in 1884.

THE CARMELITES.

The Carmelites are one of the four Orders of mendicant friars. They took their name from Mount Carmel, and they claim that their Order was founded by Elijah the prophet, and settled by him upon the mount. Several early Popes allowed this claim, but it is not admitted now by anyone outside their ranks. It is known that in 1185 there were monks of some sort on Mount Carmel, and Albert, Patriarch of Constantinople, recognised them and gave them rules for their conduct in 1209, and these rules were sanctioned by Pope Honorius in 1126. Twelve years later they were driven away from Carmel, and some of them came to England with returning crusaders. Their first monastery in England was at Alnwick, founded in 1240 (Dugdale's "Monasticon").

It is asserted that they were settled in Aberdeen by Alexander II. (1214-49), but there is no evidence that the Carmelites came to Aberdeen till Alexander III. had been twenty years on the throne. "The Records of Marischal College" (I. 13-17) contains notices of many charters in favour of the Carmelites, the earliest of which is dated May 7, 1361; but it confirms an older charter dated 1274. The Carmelites and other friars were then at the height of their popularity, and though poverty was one of their rules wealth came to them unsought; and from "The Records" we see that before the Reformation the Dominicans and the Carmelites had accumulated a vast amount of property in crofts, houses, and annual rents.

The Carmelite place was bounded on the north by the Green; on the west by the Denburn, from which it was separated by a road, but the railway has now taken the place of the Denburn; on the south the Denburn or the sea, according to the state of the tide, was the boundary; and on the east the boundary was a straight road nearly in the line of Rennie's Wynd. The north-east corner of the

convent ground was a little to the west of the end of Back Wynd (See Gordon's Chart).

The Carmelites when within their gate wore at first a white, but latterly a dark-brown dress. They put over it a white cloak with a hood when they went abroad, and hence they were called the Whitefriars. Probably they chose this colour because the Virgin Mary was reverenced as the patron of the Order, and white was regarded as emblematic of her purity. The Carmelites were begging friars, and therefore they went about barefoot. One of their rules enjoined them to be silent and to labour with their hands. They had crofts across the Denburn, which they had cultivated themselves. On Gordon's chart their place is shown as a rectangular block of ground lying north-west and south-east, about a hundred walking steps ($2\frac{1}{2}$ feet) in length, and nearly as much in breadth. This would give an area of nearly an acre and a half to be cultivated by the brethren.

By the middle of the sixteenth century the monasteries had come to be regarded as hives of indolent drones and quite out of date. The people grudged the annual payments for houses and crofts, and they coveted the ground in possession of the monasteries. When the men of Angus and Mearns came to Aberdeen on December 29, 1559, they got little or no help from the citizens in their attacks on the monasteries and their churches, but in a few days they came back reinforced and were joined by the citizens in plundering the convents and churches and expelling the priests. On January 4, 1560, the Town Treasurer informed the Council that certain strangers and some neighbours and in-dwellers of the burgh had plundered the convents of the Blackfriars and Whitefriars and had stripped the lead off their churches, and that they were then commencing to demolish the buildings for the sake of the slates, timber and stones. He desired to have the opinion of the Council regarding the property of these friars, and it was ordered that it should be taken possession of by the town. Having got rid of the monks the people were content to let the buildings alone.

For a few years the Government had too much on hand to attend to these convents and the annual rents and payments seem not to have been collected. In February, 1565-6, the Crown set the property of the two convents on a nineteen years' lease; but the tenant had not been able to collect the rents or enter into possession, and he soon disposed of his tenant-rights. Various other tenants held

the properties, but none of them for long. In 1587 they were purchased by George, Earl Marischal, who probably knew how they could be made valuable. In 1593 he made over both the Blackfriars' and the Whitefriars' houses and lands and annual rents to his new college. In the Crown charter which he obtained in 1592 the Carmelite property is thus described:—" All and whole the manor-place, with the houses, buildings, gardens, orchards, kilns, barns, and other houses and pigeon-houses of the Carmelite brethren occupied by William Menzies, senior, and his sub-tenants," which description implies that the place was much as it had been left by the Carmelites. By 1661 all the original buildings had been removed except the corn kiln, and the walls also had been broken down, so that people could cross the ground in any direction. In 1891, in digging the foundation of a house in Carmelite Street, the lowest stage of a buttress supposed to have been part of the church was found, built of dressed sandstone, (" Chartulary of St Nicholas," II. 141).

THE GREYFRIARS.

The Greyfriars were a branch of the religious Order called the Minorites, founded by St Francis of Assisi in Italy about 1209. The rule of guidance which he gave to his first few followers when he sent them out was:—" Go and preach, two and two. Preach patience; tend the wounded; relieve the distressed; reclaim the erring." The original rule as to property would have made all the members of the Order pious beggars even for their daily bread and nightly bed. Poverty for the sake of God and Christ was strictly enjoined, and the holding of property was forbidden; but it was found necessary after a time to make some relaxations. This spirit of self-renunciation attracted multitudes to the Order, and its missionaries spread over all the world.

The Franciscans came to Aberdeen in 1461, about a hundred years before the Reformation. For a time they had no place of their own but went about through the town on errands of mercy, bareheaded and barefooted, wearing a long grey robe girt at the waist with a cord. Apparently they had been made welcome by the citizens on account of their labours of love and mercy. It could not have been long before 1469, for the principal agent in securing a footing for the Franciscans

in Aberdeen, Brother John Richardson, died in 1469, and was buried, not in the convent church, but near the high altar in St Nicholas, as if the convent church had not been finished then.

In 1469 Richard Vaus, laird of Menie and probably a son of ex-Provost John Vaus, gave the Greyfriars a piece of land worth £100 on the east of Broad Street. The convent and the Church had both been built in 1469, for the "Necrologia" of the Convent mentions in that year the death of Brother Walter Leydess, carpenter, who constructed the bell-tower and the cells for the brethren. The consent of the Crown, the Bishop of Aberdon, and the Pope was obtained, and the friars were infefted in the ground July 12, 1417. The property was burdened with an annuity of £26 8s for the support of a chaplain at the altar of St John the Baptist in the Church of St Nicholas, and the Provost had the appointment of the chaplain. In the instrument of sasine it is narrated that Provost Andrew Alanson, following the example of his predecessor, Alexander Chalmers, renounced the annuity in favour of the brethren. What seems to have taken place was that, by the consent of all parties concerned, the duties and emoluments pertaining to the altar of John the Baptist in St Nicholas Church had been transferred to an altar dedicated to the same saint in the church of the Greyfriars, and the "Necrologia" shows that there was an altar in it dedicated to him. If it had not been that the honour due to their founder required that the church and the high altar should be dedicated to the praise of St Francis, of all the saints in the calendar John the Baptist, the first monk, Milton's "glorious eremite," with his long robe of camel's hair, the leathern thong at the waist, his bare feet, and wild desert meat, was the worthiest to be the patron Saint of the Greyfriars.

GLASS-MAKING IN ABERDEEN.

Some other gifts of ground were made to the brethren in extension of the ground given by John Vaus. Robert Schand, Rector of Alness, bought for them the ground at the north end of the lower garden, in North Street; David Collison gave a part of his holding to allow the cloister to be extended; and Thomas Myrtoun, Archdeacon of Aberdon, gave a property which he had at the west side of the convent ground. Liberal help was given by many

benefactors for the erection and extension of the convent buildings. Bishop Stewart (1532-45) bought a piece of ground at the north end of the church for the convent, at a cost of £40, and he also built an infirmary for infirm brethren. Several of the brotherhood whose deaths are recorded are praised for their mechanical skill. One was a carpenter, another a stonemason, and a third, "Brother John Strang, priest and glass-maker, was most faithful in his work. He executed many things in his art in several convents throughout the province [Scotland], particularly in the convents of St Johnston, Ayr, Elgin and Aberdeen. He died in 1517." Glass-making began in Scotland about 1500, and it is likely he had been the first glass-worker in Aberdeen. The enormous quantity of peat-ashes found in the quadrangle of Marischal College, a few yards in from the gate, told where his work had been carried on. He had made glass for the first church and the convent buildings, and he may have glazed the Cathedral and King's College. It is mentioned regarding Brother John Thomson, layman, who was a skilful carpenter and mason, that he never accepted food or drink for work done outside the convent; and as glass-makers must have been very scarce in Aberdeen John Strang may have given his services outside to benefactors of his Order. He had made his panes of glass in the same way as the ancient Romans did, by pouring melted glass into a metal frame laid on a smooth polished slab of stone. The Romans knew how to render glass obscure by grinding the surface of the plates, and they may also have known how to make the plates more transparent by polishing them. For excluding wind and rain the Romans used chiefly linen in their windows. The same article, or canvas, may have been used in Britain; but, in general, recourse was had to wooden shutters both in public and private buildings; hence the great demand for wax and oil in early times.

GREYFRIARS CHURCH.

The first church was built about 1469. Gavin Dunbar, Bishop of Aberdeen (1518-32), provided the money for a new church. Alexander Galloway, parson of Kinkell, was architect and superintended the erection of the church, and at his own expense he caused an altar to be constructed in honour of John the Baptist. The new

church had been begun to be built before 1528, for the "Necrologia" says that William Elphinston, Rector of Clatt, who died in that year, contributed £100 in the end of his days for building the new church. It was a long building. The part remaining to be taken down in 1903 was 110 feet long, and the foundations extended 30 ft. 10 in. farther north, showing that it had been 140 ft. 10 in. long originally. The church was 33 ft wide. The west wall of the latest addition to Marischal College is on the site of the west wall of the church; but the north end of the church, when it was taken down, came only to the buttress at the south side of the gate. There were then six window spaces in the west wall; but there had been originally eight windows in the west side. There were no windows in the east side, but there were originally two round arched doorways which had afterwards been built up. When the church was taken down it was found that there were between these doors the foundations of piers which had supported an arch 19 feet wide, behind which there had probably been a chancel containing the high altar. If the church had stood east and west, instead of north and south, the altar would have been in the end of the church.

Several things tend to show that the new church had been built on the site of the first church. The "Necrologia" shows that there was in the first church a passage from the convent to the choir. There was no evidence of this in the second church, but when it was taken down there was found at the south end of the west wall of the first church a short flight of steps going down to a paved floor 3 ft. 5 in. below the level of the floor of the church..

Three persons named Chalmer, probably nearly related, were buried in the church, and likely near each other. William of Balnacraig was buried in the old church in 1516 before the altar of the Virgin Mary; Duncan, his son, a venerable man, was also buried in the church, but neither the place nor the date are given; Mariot, the date of whose death is unknown, was buried before the altar of the Virgin in the dress of the Franciscans, but likely with shoes on her feet. When the church was taken down there were found in the causewayed floor the bases of pillars, not far from the east wall, which might have been at divisions between small chapels within low railings before altars. Within these chapels assembled relations of persons for whom anniversary soul masses were to be said, who had been there buried by arrangement with the

officials of the church. Within what might have been the area of one of such chapels were found several skeletons, one of them of a woman with remains of shoes at her feet. In all seven or eight skeletons in various stages of decay were found in the church below the causewayed floor of the nave. All the bodies seemed to have been interred without coffins. All human remains were carefully collected and reverently laid in the area of the Snow Church, under the care of Mr Leslie of Powis. Some shallow graves were found near the south end of the church. The cemetery of the convent had been on the site of Long Acre. In 1847, in the course of some building operations many bones were found there, and also a dozen bags of canvas and leather, full of small copper coins, which had been buried in the cemetery by the friars before they left the convent, in the hope that some day they would be reinstated in the convent and would recover the hoard.

The church was divided into two parts, choir and nave, by a screen crossing it nearer the south end than the north. From the choir there was a round-headed door in the east wall into the jewel house, where were kept the sacred utensils, priests' vestments, altar cloths, and books of the church. This was a very small door, and the floor of the jewel house being higher than the floor of the church there was a short flight of steps in the wall at the door. The other door opened into the nave. It was larger than the door of the jewel house, but less than the church door in the north end. These doors are mentioned in "Miscellany of the Spalding Club" (I. Preface, 42):— "The kirk and the lytill [t]hacht howss passand furth of the queir, on the eist syd wall of the said kirk, callit the jowal howss . . . the gret dur, and . . . the lytil dur." The little door is the door into the nave. The church was surmounted by a spire with a bell which in later times was rung to call the students of Marischal College to their classes. The church was roofed with slates when it was taken down, but prior to 1768 it had been covered with small thin sandstone slabs. Many of these were found in the rubbish which had been used to raise the level of the floor.

Originally there was an open space between Broad Street and the church, "quhar thai had wont to gaddir myddings and fulse, and culd nocht be keptit clene." Therefore in 1552 the town consented to feu this piece of ground to three burgesses to build "fywe boothis or

choppis" thereupon, with consent of the Greyfriars. It was stipulated that the booths should not exceed $13\frac{1}{2}$ feet in height. Perhaps a similar limitation had been prescribed for the "choppis" forming the Boothraw on the west side of Broad Street when they were first set down. However that may have been, there are lofty houses now between Broad Street and Guestrow, and before the demolition of the east side there were houses of two, three and four stories between the church and the street.

SUPPRESSION OF THE GREYFRIARS.

The end of the labours of the charitable brotherhood came on December 29, 1559, when zealous reformers from Angus and Mearns invaded Aberdeen. The Greyfriars, seeing what was going on at the other monasteries and probably acting on good advice, prudently resigned their property into the hands of the Town Council, stipulating that if ever the Queen's Government should restore to other religious brethren the churches and hospices which had been taken from them by lawless men in other parts of Scotland, then restitution should be made to them of what they had resigned. A legal deed embodying the transfer and conditions was signed in the hall of the convent by a number of the citizens as witnesses; and Thomas Nicolson, one of the baillies, received the property of the Greyfriars on behalf of the whole community of the burgh. The brethren received pensions from the town, and some of them were taken into the families of citizens, nominally as servants but no doubt in some cases as chaplains of the old faith.

The resignation by the brethren was never recalled, and the Town Council held the property till 1567; but they were unable to turn it to any useful purpose on account of the unsettled state of public affairs and the want of a valid title, because Parliament had decreed that the property of the suppressed religious houses was to go to the Crown. In December, 1567, they obtained a royal charter conveying to them the mansions, gardens, and other property formerly belonging to the Greyfriars, that they might convert the convent into an hospital for orphans, poor children, and disabled persons. The Council never did anything farther under this charter than endeavouring to let or sell the property with the view of augmenting the income of St Thomas's Hospital; and in 1587 the charter

was annulled by a General Revocation Act passed July 29. The Earl of Huntly had been on the watch, and on the same day he got from the Crown a charter conveying to him the whole property, except the church, for an annual rent of forty pounds to be paid to St Thomas's Hospital.

THE PASSING OF THE PROPERTY.

Apparently the earl had not known what to do with the conventional buildings, which had been standing unoccupied for thirty years and had become dilapidated and ruinous; for in 1589 he resigned them to the Crown in favour of the provost and magistrates of Aberdeen. The Town Council had again become owners of the Greyfriars' property, but they found it necessary to settle a claim made by the heirs of Andrew Jack in virtue of a feu granted by the town to him in 1574. Having then come into full possession of the property, the Town Council, on September 24, 1593, resigned the whole, including the church, in favour of George, Earl Marischal, to be given by the earl to endow a college. As the earl had already on April 2 transferred the whole Greyfriars' property to the new college, this proceeding of the Town Council must have merely been carrying out a formality which had inadvertently been omitted.

In 1768 the church was shortened 30ft 10in., and an aisle was projected from the east wall. At the same time the floor of the church was raised to the level of the base course and the ground round the church.

THE TEMPLARS.

The Templars were one of three religious military Orders founded after the first Crusade, (1096-99). They designated themselves the:—"Poor Company of Soldiers of Christ and of the Temple of Solomon." The main design of the institution of the Order was the armed protection of the pilgrims who flocked to Jerusalem after the First Crusade to visit the tomb of Christ and other holy places. After the fall of Jerusalem a Latin kingdom was established, with Godfrey as king and a mosque built on the site of Solomon's temple on Mount Moriah for his palace. This mosque was usually called the Temple of Solomon by the Christians in Jersalem, and as quarters

in it were given to the new Order they were styled the Templars. The Order consisted of knights, chaplains, and men-at-arms. The knights wore white mantles, and the chaplains and soldiers black or dark brown. All were distinguished by a red cross sewn on their mantles. The headquarters of the Order were at Acre for the East and at Paris for the West. As they did no productive work the maintenance of the Order depended on the liberality of Christendom. The affairs of the Order were directed by a grandmaster, under whom were officers called preceptors or commanders. There is no doubt that Scotland had a preceptor, and under him there were local agencies.

Money flowed into the coffers of the Order freely, and the Templars soon had property in every country in Christendom. Sympathisers with the purpose of the Order bequeathed sums of money or annual payments from houses and lands. In Kincardine the barony of Maryculter belonged to the Templars, and the Castleton in Durris was Templar land. The names of many places in Aberdeen show that they had once belonged to the Knights of the Temple. There is a Temple feu in Turriff, a Templand in Auchterless and another in Forgue, and similar names are frequent in the county. In the town the knights drew feu-duties and rents from many houses.

Kennedy's "Annals" says that a branch of the Templars was established in Aberdeen and had a convent and a church situated at the east end of the Castlegate, in the lane which was formerly called Skipper Scott's Close, and Dr Alexander Walker believed that the Catholic Chapel of Justice Street had been built upon the site of the Templars' Church. Gordon says in 1661:—"Upon the north side of the Castlegate, among the gardens, there is to be seen a certaine obscure and scarce lie now discernible ruine or foundatione of a small building overgrowne with briers and thorns, which sumtyme belongit to the Friers or Reed Freers Templar. No farther accompt can be givne theroff, for at this tyme the very ruines are almost ruinated." Gordon's chart of Aberdeen shows the Templars' place as an enclosure near the north end of the gardens about 120 yards from the north-east corner of the Castlegate. It will be seen that Gordon makes no mention of a church, and Kennedy had no other ground for his statement than Gordon's. But if this spot had been a Templar agency there can be no doubt that there had been a chapel there also, for the Templars were a religious

as well as a military Order, and it was the chaplains who stirred up the people to contribute to its maintenance.

Their wealth and military prowess led them to engage in war, the practice of the chaplains of hearing the confessions of persons outside their own Order made enemies to them of the Franciscans and Dominicans, and the Knights Hospitallers were jealous of their success and influence. They took the side of the Pope in a quarrel with Philip IV. of France, and he resolved to crush them. He accused them of heresies and heinous crimes which it now seems impossible to believe they committed ; but they were found guilty, and the Order was suppressed in France in 1312, and its property was transferred to the Knights Hospitallers of the Order of St John. At the Reformation their property in Scotland fell to the Crown, and the lands of the Order were erected into a barony by Queen Mary in favour of Sir James Sandilands of Torphichen, the last preceptor or commander of the Order in Scotland ; and the detached lands and houses once belonging to the Templars were soon disposed of.

ST PETER'S HOSPITAL.

This was a shelter for infirm brethren of the priesthood, established by Bishop Matthew Kyninmond (1170-99) on the east side of the Spital. This name is a shortening of hospital. It was dedicated to St Peter, the chief of the apostles, and it was intended to be for the weal of the soul of King William the Lion, his ancestors and successors, and of the soul of the Bishop himself and his ancestors and successors. It was an article of the faith of the old Church of Scotland that the souls of the dead were benefited by the prayers of the living. With the two-fold object of securing physical comfort for priests no longer fit for nocturnal service in the Cathedral and "post mortem" spiritual benefit to the King and to himself, the bishop endowed an hospital for the priests to live in and a church where they should assemble daily and perform religious services. The King had been a benefactor to the Cathedral, and he may have helped with the erection of the church, as it is likely that there had been in it a chapel with an altar devoted solely to the services for the King and his friends. An altar in the Cathedral, called the Holy Blood altar, was reserved exclusively for King James III. and his son John, Earl of Mar.

The bishop endowed the hospital with lands which were called mensal—that is, devoted to the bishop's table and house to enable him to show hospitality to visitors. It was “ultra vires” of the bishop to withdraw them permanently from the use of his successors, and in 1427 Bishop Henry Leighton was within his right in recalling them to his own and his successors' use. This he did on the ground that the hospital had never fully served the purpose for which it was intended. A master had been necessary to look after the hospital and the infirm brethren to see that they prayed for the King and the bishop; but there was no one to look after the masters, and they had appropriated the income of the hospital to their own purposes. Bishop Leighton, therefore, suppressed the hospital, but undertook for himself and two chaplains the religious services that the brethren had been intended to carry on. The church was continued as a place of worship and made a parish church with a parochial district. The boundary stones were marked with a key, representing St Peter. After the Reformation, when prayers and masses for the dead were forbidden, the church was unnecessary, and the parish was suppressed and united to its mother parish St Machar.

ST THOMAS'S HOSPITAL.

On May 28, 1459, John Scherar, minister of Clatt and canon of the Cathedral of Aberdon, and canon also of the Cathedral of Brechin, founded an hospital for poor and infirm people. His name was John Scherar; but in the foundation charter he is called John Clat, and this was the name he was generally known by. The ground given for the hospital was bounded on the north by that part of the Netherkirkgate west of St Nicholas Street which is now reckoned to be part of Correction Wynd; on the west by Correction Wynd, which shows that the “Book of Bon-Accord” is wrong in saying that this way to the church was opened in 1636; on the south by John Howysoun's land; and on the east by the burn flowing from the Upper Mill—that is the mill afterwards called the Flour Mill. The hospital, the charter says, was for the increase of the worship of the holy mother Church and for the honour of God Almighty and of the Blessed Virgin Mary, His most glorious mother, and of all saints, and especially of St Thomas the Martyr—that is Thomas A'Becket, Bishop of

Canterbury, killed in 1170. The hospital was intended for a residence for poor and infirm people. The founder appointed John Chawmer to be master and rector and chaplain of the hospital, and he gave the patronage and appointment of the inmates, after his own death, to the provost and the community of Aberdeen. Annual allowances were made to the inmates, who provided for themselves and had no other duty laid upon them than taking part in the morning and evening services in their chapel.

We see in Gordon's chart a building with a spire, which extended from Correction Wynd, along what was formerly in Netherkirkgate, as far as the east side of St Nicholas Street. In rebuilding houses on the site of the hospital in 1902 it was seen that there had been a burying ground behind at the east end, and a garden at the west end. Probably the chapel had been much larger than the necessities of the inmates required. If the management of the hospital and the conduct of its inmates had been such as to gain the confidence of the citizens there can be no doubt that mortifications had been made for memorial services in the chapel. St Thomas was held in the highest reverence, as we see from Chaucer, and the incomes of the chaplain and the bedesmen had been augmented by bequests for prayers and masses at his altar. Memorial services were held at various places for the same person, and often at places where we should hardly have expected to find them. Prayers were said in the Abbey of Deer for the soul of David, Earl of Rothesay, son of Robert III.; and in St Nicholas Church and St Machar Cathedral for the soul of John, Earl of Mar, son of James III. In the Cathedral the memorial tablet usually said to commemorate the poet Barbour bears his name. During the Franco-Prussian war masses which should have been said in Paris were transferred to the Catholic chapel at Fetternear, in Aberdeenshire. At the Reformation annual payments for soul masses had ceased, and the slender endowments of the hospital were able to maintain only a few inmates, and their allowances were but small.

The necessity of living in the hospital away from their friends made the inmates discontented, and in 1771 they got annual allowances with leave to live with their friends and relations. The hospital feu was sold and closely built upon. Dwelling-houses and shops were erected on the ground contiguous to the streets, and the Associated

Burgher Congregation built a chapel on the ground behind. In 1838 it became a Chapel of Ease in connection with the Church of Scotland. It afterwards became Melville Free Church. Some years ago the property was sold, and a new church was built in Skene Street.

BISHOP DUNBAR'S HOSPITAL.

In 1531-2 Bishop Gavin Dunbar founded an hospital to receive twelve poor old men, preferably men who had once lived upon the Cathedral lands. It was built on land belonging to the bishop "ex officio" at the end of the Chanonry, on the north side of the Tillydron Road, where Seton gate is now. This site had not been reckoned to be within the Chanonry till the manse of the prebend of Monymusk was built, in the same place but farther west, in 1445. By that time all the suitable available space within the Chanonry had been occupied. The hospital was 100 feet long and 32 wide, and it contained a refectory, oratory, and twelve dormitories for the inmates, who were called bedesmen, because they were requested to pray daily for the founder and his successors.

A view of the hospital in Gordon's chart shows that it had a belfry and a spire in the middle. The bedesmen got an annual allowance of ten merks each for maintenance, and one more to buy a white coat; and they got ten merks jointly to keep them in fuel. The Bishops of Aberdon were patrons and managers of the hospital till the Reformation, when the property and revenues fell to the Crown because the duties of the bedesmen had become illegal. However, the hospital was continued under the fluctuating management of the Protestant bishops till the Revolution, when the Crown gave the management and patronage to the Principal and Sub-Principal of the University and the minister of Oldmachar. The office of sub-principal having ceased to exist there are only two managers now.

The proprietor of Seton, wishing to make an avenue from the Chanonry to Seton House, arranged with the managers in 1786 to exchange the hospital and its site for a large house in Don Street, where the bedesmen lived for a time. As they were no longer required to pray for the souls of the founder and his successors there was no good purpose to be served by compelling them to live together. They are now allowed to live with their friends, and the

Don Street house is let to tenants. At present eighteen persons receive annual allowances from Dunbar Hospital Fund.

THE LEPER HOUSE.

The movement and mingling of people of different countries during the Crusades (1096-1272) made leprosy epidemic in Western Europe. Many hospitals were established to receive those infected with the disease to keep them apart from other people. Some of these were in Scotland, and one was in Aberdeen. Gordon's Map shows the ruins of the Leper House on the east side of King's Crescent. Its site is now a bowling-green, and a stone projecting into the pavement had probably been at the south side of the Leper croft. It was 200 yards within the city boundary. Like most of the other leper hospitals it was a religious house. In 1519 Alexander Galloway, parson of Kinkell, erected a chapel for devotion at the Leper House and dedicated it to St Anna. Lepers were forbidden to touch healthy persons and to wash in the streams used by others. Near Aberdeen Leper House there was a marsh, which had supplied them with water. Aberdeen was formerly supplied with fire and light by peats and candle fir from the mosses round the town. The Lepers got a peat from every cart which passed their house. The disease had disappeared from Aberdeen by 1661, and the house was then in ruins.

MITCHELL'S HOSPITAL.

This is a benevolent institution somewhat similar in purpose to St. Thomas's and Bishop Dunbar's Hospitals, but having been founded in 1801, after the Reformation, no religious duties were enjoined by the founder on the inmates. It is situated near the north end of the Chanonry, opposite the Cathedral, and consists of a range of buildings of one story, intended for the comfortable accommodation and maintenance of five widows and five unmarried daughters of burgesses and gentlemen residing in Old Aberdeen. It was founded by Mr David Mitchell of Holloway Down, Essex, a native of Aberdeen; and the management of the institution and its funds is vested in the Principal and Professor of Divinity of the University and others.

MEAL MILLS.

RUBBING STONES.

The mode of making oatmeal in the stone age was to lay a handful of oats upon a saucer-shaped stone and to rub them with another stone held in the hand. Many such stones are found in graves in the fields, inverted over the burned bones of the owners. The oats had been previously dried or roasted upon a place where a fire had been burning, both to improve the flavour of the meal and to facilitate the grinding. The sids or shells of the oats had been sifted out after the grinding. The stones as we find them are hollow in the centre, but originally they had been flat. By long use they would wear smooth, and they had then been roughened by striking them with a sharp-pointed quartz stone, and this had gradually hollowed them in the centre. Rubbing stones of this fashion are still in use among African savages.

CUPS IN STONES AND ROCKS.

In many places there are on solid rocks or large boulders groups of cups which had been used in pounding or bruising grain to be meal. They are commonly about two inches in diameter and resemble in shape the hollow in the shell of the top of an egg. Some had been made by means of a pointed stone, and some had been excavated by metal chisels. Sometimes a cup is seen on the underside of the cover of a stone-lined grave cist, and sometimes on one of the pillars of a stone circle round a grave. These must be very ancient.

QUERNS.

An advance upon the rubbing stone was the quern, which was also at first a stone age machine, though it continued in use long after the introduction of metals. Querns were used within the last hundred years to grind malt for making smuggled whisky. The simplest form of quern consisted of two stones, one of them hollowed out by means of a pointed stone into the form of a small tub,

and another dressed to the shape of a cheese to fit into the cavity of the other. The oats to be ground were put into the lower stone, and the upper was turned round upon them by a wooden pin let into it near the circumference.

After the introduction of bronze, iron, and steel, quern stones were shaped with metal tools. The ancients did not know our way of converting malleable iron into steel; but in some countries they made steel of excellent quality, unwittingly, in smelting good iron ore with charcoal fuel. Among the Romans Noric iron bore a high reputation, and it had all the qualities of the best steel for stone dressing.

In a later and improved form of the quern the lower millstone had the upper side convex, and the under side of the upper was so concave that it rested upon the under stone only at the circumference. An upper millstone of this sort may be seen in Marischal College Museum. To keep the upper stone in its place a spindle of iron was fixed vertically in the centre of the lower stone, and a bar of iron was let into the lower side of the upper stone. In the centre of the bar there was on the under side a small cup like a thimble. The upper stone was placed on the lower in such a way that the thimble rested on the point of the spindle. The oats to be ground were poured into a hole in the upper stone, and they filled the vacant space between the stones. The upper stone was turned round by a pin for a handle, and the meal came out at the circumference at the seam between the two stones. A quern of this style was found among the debris in the Greyfriars Church when it was demolished. Most likely the quern had been used in grinding malt to be used in making whisky in secret.

PRIMITIVE WATER MILL.

The parts of this mill were few. A chief part was a vertical shaft, which passed through the floor of the mill-house into a chamber below, formed by two stone walls three or four feet apart. Into the bottom of the shaft was inserted a cylindrical hard stone, the point of which served for a pivot on which the shaft turned. The pivot rested in another hard cup-shaped stone placed on a strong bar which could be raised a little, if necessary, by a wedge below one end. A pivot and its cup are in the

museum of Marischal College. Into the shaft were inserted the ends of ten or twelve aves or water-boards placed at an angle of 45 degrees, so that it resembled a wind-mill placed horizontally. A drain brought a stream of water to the mill. It entered a sloping wooden spout which discharged the water with some force upon the water boards and made the shaft revolve. On the floor of the upper chamber was laid the lower millstone, which had a hole in the centre. Through this hole the shaft passed, some stuffing being inserted between the shaft and the stone to prevent the escape of meal. The top of the shaft was square, and a bar passed across the under side of the upper stone with a square hole in the middle, by which it was made to rest on the top of the shaft. When the water struck the aves the shaft revolved and caused the upper stone to revolve also. The corn was fed in at a hole in the upper stone from a hopper hung above. The mill-house was only ten or twelve feet square, and the roof was low. Such a mill ground a bushel of oats in an hour, and as the work was usually done in the evening in winter a small fire was kept burning in one corner.

Mills of this sort were in use in Shetland till the middle of last century ; but they were used in Aberdeenshire and other parts of Scotland in early times. It may be taken as certain that the first mills in Aberdeen had been of this sort.

MILLS WITH A VERTICAL WATER-WHEEL.

In the primitive mills with a horizontal water-wheel the length of the aves was regulated by the speed required for proper grinding. To have lengthened the aves would have increased the power, but would have reduced the speed. The necessity for more power with a fair speed led to the introduction of mills driven by broad, vertical, overshot and undershot wheels yielding power enough to increase speed at pleasure. Though of the modern type, the first of these mills were very simple machines. All they did was to shell the oats and grind the shelling—the name given to the oats when the husks were removed. The farmer dried or roasted his corn on his own kiln and conveyed it on horseback to the mill. In ancient Aberdeen men called drysters had kilns for general use, where they dried oats for making meal. Barley for brewing ale had also to be dried after being steeped and malted.

When a miller was ready to take in hand a farmer's corn he sent him word to attend at the mill on a certain day, to riddle the shelled corn and sift the meal; for neither of these operations could the mill do. On the day fixed the farmer's wife and daughters or servants set out for the mill early in the morning, each carrying a riddle, a sieve, and a sheet to sift upon. Most of the meal making was done in winter, because the crop had to be thrashed to furnish straw for winter fodder for cattle. It was, besides, forbidden by Act of the Scots Parliament to cause meal to become dear by hoarding up corn into summer. The last of a farmer's crop had to be thrashed and made into meal before a fixed date in early summer. On this occasion the grain loft was swept out clean, and hence the last despatch to the mill for the season was called "the dusty meldure." A century ago this epithet was facetiously given to the youngest of a large family.

When all was ready the miller started the mill and stood by with his thumbs in the armholes of his vest, watching the mill and looking on at the farmer pouring the corn into the hopper, and at his wife and daughters riddling out the sids from the shelled corn. This was done outside to let the wind blow to the side the fine hairs seen on one end of the oats when the shells are taken off. It required skill on the miller's part to set the millstones at such a distance from one another that they shelled the corn and took off the hairs—called the dust—and yet did not take off any part of the kernel. After the shells were riddled out and the dust was separated from the shelled corn it was put through the mill again with the stones set close. This ground the corn to fine meal, and it also ground any grains which had been left unshelled. The women had therefore to pass the meal through a skin sieve pierced with small holes to take out accidental sids.

As the mill did but little work little water was required to drive it; but, when mills were provided with riddles to take out the shells, fans to winnow out the dust, and sifters to remove sids from the meal, then more water was required to drive them. In Aberdeen this, combined with the increase of population, caused the town to utilise its water power to the utmost to be able to supply the citizens with meal. After flour began to come in large quantities from America the use of oatmeal decreased, and many of the meal mills once at work in the town have ceased to exist, and their site is hardly known.

THE FIRST CITY MILL.

It has been already mentioned that in the “Book of St George’s-in-the-West” there is an account of the finding of the traces of a mill in the south end of the block of houses between Broad Street and Guestrow. There is no record of this mill, and the presumption is that it had ceased to work before 1398, the date when the town’s records begin. It had been driven by the Spital Burn, augmented by the Westburn from Mastrick.

THE JUSTICE MILLS.

The earliest mention of mills in or near Aberdeen is in a charter dated 1349-50; quoted in “Records of Marischal College,” I. 13, note, where two portions of land are described as lying near the Denburn on the north side of the road from the Denburn to the Justiciar’s Mills. This was the Windmill Brae and Langstane Place road. These are the mills now called the Justice Mills. They seem to have got their name from the King’s Justiciar in the north being accustomed to hold courts on the knoll beside them. There are two mills driven in succession by the same stream—the Rubislaw or Holburn. It is now covered up from Rubislaw Bleachfield downward to its mouth in the bank of the Dee below Wellington Bridge. Formerly there was a mill dam for the upper mill on the west side of Holburn Street, which is now filled up, and another for the lower mill between the two mills, which is still in existence. After driving the lower mill, the water used to drive the wheel of Ferryhill Mill; but it was withdrawn from Ferryhill Mill on account of the formation of new streets on the east side of the mill.

In Munro’s “Common Good of the Burgh of Aberdeen” it is mentioned that from the first entry in the Town’s Records dated 1398, it is seen that in 1394 the town’s mills were let at £20 Seots. In 1575 the town’s four mills were assigned to Provost Gilbert Menzies as security for money lent by him to the town. The four mills must have been the mills mentioned in 1398, which undoubtedly had been the two Justice Mills, and the Upper and Nether Mills within the city.

THE UPPER MILL.

Before 1394 the Netherkirkgate Mill had given place to another situated in what is now known as Flournill Brae, then outside the town. One reason for transferring the Netherkirkgate Mill to a lower site must have been the possibility of bringing to the new place a supply of water from the Denburn by a lade branching off at the old Gilcomston Dam. The water brought by this lade joined the united Spital Burn and Westburn in Maberly Street, and flowed east along Spring Garden into the long dam in Loch Street. Emerging from the south end of the dam at the Loch E'e the mill burn flowed along Burn Court and across Upperkirkgate to the Upper Mill in Flournill Brae. Leaving it the water ran across the lowest part of Netherkirkgate, across St Nicholas Street, St Nicholas Lane, Union Street, East Green, and passed under the Market. Then it crossed Hadden Street diagonally and drove the Nether Mill on the west side of the street, and afterwards entered the Denburn at Trinity Street. Probably there had at first been only one mill on the burn, but in 1525, if not before, the Nether Mill had been erected. Originally the Upper Mill was only a meal mill. Latterly stones for grinding wheat were added, driven by the same wheel as those of the meal mill. The Upper Mill continued to work till 1865.

THE NETHER MILL.

The Nether Mill is shown in Gordon's Map in 1661 and in other old maps of the city. In 1897, in the course of some alterations in the base of Nos 9-11 St Nicholas Street, the channel of the mill burn was found in the house; and when Nos 13-15 was rebuilt a few years later the channel of the mill burn was found partly in the house and partly in the street, coming from the Flournill Mill across the end of Netherkirkgate. The site of the Nether Mill was within the block of building bounded by Hadden Street, Exchange Street, Imperial Place, and Stirling Street. It was at first a meal mill, in 1847 it became a malt mill, and lastly a sawmill. It ceased to work at the same time as the Upper Mill.

THE MID MILL.

In Gordon's Map, 1661, among the references in the margin is one to the Mid Mill, but its position is not shown on the map itself. Taylor's Map, however, shows the three mills, Upper, Mid, and Lower, all on the same burn. Their positions are indicated by small white circular spots. The Mid Mill must have been on the site of the Commercial Bank in Union Street. It was erected in 1619, as is shown by an entry in the town's records, where there is mention of paying for a pint of wine on the occasion of "taking sasine of John Fraser's house where the Myd Mill is biggit." It was a meal mill at first and afterwards a malt mill. It ceased to work in 1798, when its site was required for the construction of Union Street.

ANCIENT WELLS.

THE ANGEL WELL.

The angel in the Christian Church means the Archangel Michael, who was regarded as the guardian angel of the true Church. In Scotland five churches and their parishes are called KirkMichael from having been placed under his special protection. His festival, September 29, was so generally kept that it became one of the quarterly terms of England. He is the patron saint of Russia, and a convent on the White Sea dedicated to him became the nucleus of a large town, known as Archangel.

There was in Aberdeen a well called the Angel Well. According to the late John Ramsay, editor of the "Aberdeen Journal," it was in or near Hanover Street, and there was there in the first part of last century an inn frequented by farmers and travellers, at which there was a deep draw well. The site is now occupied by Hanover Street School, and when the foundation was excavated it was found that there was a very deep deposit of fine stratified sand, an old sea beach frequently met with at 50 to 100 feet above sea in the foundations of houses. It is destitute of water, but under it lies glacial clay, and when it is reached and entered for a few feet a good supply of water is found.

It is likely that the name came to be given to the well by being in a croft or field given by some pious donor for the purpose of maintaining a priest to say masses for the soul of the founder at the altar of St Michael in St Nicholas Church. The Chartulary of St Nicholas shows many "post mortem" gifts of annual rents to St Michael's altar, but there is no mention of land or houses about Albion Street or Hanover Street. Probably the gift of the land with the well in it had been made before the date at which the Chartulary opens.

THE CORBY WELL.

In Gordon's Map of Aberdeen, 1661, the brae in front of Union Terrace is called Corby Heugh, which shows that before that date it had been planted with trees, in

which crows made their nests. A few hundred years ago trees were so scarce that wherever they were planted for shelter or ornament near mansions or towns they were taken possession of by crows. An Act of Parliament was passed forbidding people to let them build, and declaring the trees forfeited to the Crown if rooks were allowed to nest in them. This may have been the origin of the name given to a well which was in front of Union Terrace, and near the south end of Denburn Terrace, now removed. It was approached by a foot-bridge over the Denburn at the bottom of Mutton Brae. Its site is now marked by a fountain near the bottom of the stair at the north-west corner of Union Terrace Gardens. It must, however, be said that Corby in names sometimes represents a Gaelic word "Corban," which means a cattle-fold, and that folds were usually near wells or burns.

The Corby Well, sixty years ago, was a square stone building containing a cistern discharging water by a small pipe. "They say" that in the days when men drank deep at night they found a draught of water from the Corby Well very refreshing next morning; hence, in some shops it was the duty of the youngest apprentice to visit the Corby Well in the early forenoon with the small "rouser" used for sprinkling the shop floor to lay dust at sweeping time. "They say" also that an inspection of the cistern in the stone structure on one occasion revealed a sight so disgusting, from the number of snails and other creatures that had taken up their quarters there, that it was resolved to abolish the well and replace it by a fountain supplied with Dee water.

ST JOHN'S WELL.

Nothing is known regarding the origin of this name, and it may be assumed that the well took its name from being in a bit of land given for the support of a chaplain at the altar of St John the Evangelist in St Nicholas Church. In 1277 Richard the mason founded this altar and made endowments for the support of a perpetual chaplain to officiate at it. He bequeathed for this purpose a croft on the west side of the Windmill Brae Road, worth 10s 8d annually ("Chartulary of St Nicholas," II. 42). This was probably the ground which gave its name to the spring. In 1661 Gordon's Map shows no houses on the north bank of the Denburn west of where the Infirmary now is, but a hundred years later there

was a continuous row of houses from the Well of Spa as far as to Esslemont Avenue. There was also then, on the south side of the Denburn, a short row of houses called Hardweird. One inducement for building in that neighbourhood was proximity to the burn and the mill-dale for washing water, and St John's Well for drinking and cooking water. The spring was in a steep grassy bank between what is now Skene Street and Skene Row, on the left hand going down a foot road leading north-east to Upper Denburn. This road was abolished when Rosemount Viaduct was formed in 1885, and a stair straight down to Hardweird was made. At this time the well was shifted to a more convenient position and placed under the stair, where it is still flowing; but as there was a risk of the spring water being contaminated with sewage, the ordinary city water was substituted. Above the pipe discharging the water is a stone bearing the inscription:—"Sancti Joannis Fons ab operum publicorum curatoribus restitutus. A.D. MDCCCLII." (St John's Spring, renovated by the Superintendents of Public Works, 1852.) This date refers to some improvements made at the spring in that year.

ST MARY'S WELL.

This well was near the bottom of Aikleek Street, north of the gutter in front of a gate on the south side. It discharged its water by a small iron pipe. It no doubt took its name from a bit of land burdened with an annual rent to the altar of the Virgin Mary in St Nicholas Church. This altar was in the south transept. In the Chartulary of St Nicholas there is mention of a rent of 10s to this altar from the land of John Stokar in the Green, beyond the Denburn Bridge. Green here means pasture ground. The well seems to have been much frequented for drinking water by the inhabitants of the district called the Green, and there was a footbridge below the Bow Brig, in line with Guild Street, convenient for visitors to the well and those going to the Justice Mills for meal.

There is mention also of a wooden cross called the Stockrood in the Green beyond the Denburn. This might have been erected as a place for pious travellers to say prayers at before entering or leaving the city. Crosses were also erected at wells, and the Stockrood may have been a cross at St Mary's Well, where women going for water in the evening might say prayers to the Virgin.

The well was still running in the middle of last century, but it has vanished out of sight.

THE WELL OF SPA.

This well must have been named after the famous spring of the same name in the east of Belgium. The Aberdeen spring like the Belgian contained iron. The Latin for iron is "ferrum," and the waters of both springs should have been called ferric, but the medical term applied to such waters is chalybeate, derived from the Latin word "chalybs," steel. Probably this term was selected because its meaning would not have been readily understood by the vulgar.

When rain water, containing carbon dioxide or carbonic acid gas, sinks into soil or decaying rock containing iron it dissolves some of the iron and takes it up in the form of carbonate of iron, which makes it astringent and inky in taste but does not alter its colour. If the water issues from a drain or a crack in a rock with a large stream it shows no change in colour till it has come in contact with the air. Then it begins to grow red, because oxygen of the air displaces the carbon dioxide and forms iron oxide. Flakes of red mucous-looking matter form and adhere to grass and stones in the stream, and the water becomes clear. A blood-red stream discharged from an iron mine often becomes clear in running a mile at a roadside. People who wish to drink water containing iron should take it as it issues from the ground or a rock before it becomes red. As medicinal agents chalybeate waters act as tonics and are supposed to redder the blood. They are often prescribed for young persons of a pale complexion. Formerly chalybeate waters were in greater repute than they are at present.

The Aberdeen spring derived its iron from a bed of old red sandstone rock which seems to occupy the whole length of the hollow extending from Berryden to Union Bridge. It had early attracted notice from its colour and taste, and probably an arrangement had been made by which its water issued from a low wall at a spout a little above the ground. It seems, however, to have had its day and to have been afterwards neglected and forgotten, for in 1615 William Barclay wrote a tract titled "Callíhoe, commonly called the Well of Spa, or the Nymph of Aberdene resuscitat, by William Barclay, M. of Art, and

Doctor of Physicke." It had a preface addressed to Sir Robert Keith of Benholm, Knight, and it was signed by "Barclay Doctor." His name does not appear in the lists of graduates either of King's or Marischal College. He is said to have been born about 1570 and to have died about 1630, and Dr Joseph Robertson says he belonged to the family of Barelay of Towie. The original Callirrhoe—beautiful stream—was a fountain at Athens. It is to be hoped that Sir Robert Keith and other citizens of Aberdeen had understood Barclay's ostentatious style better than the moderns are able to do.

The Well of Spa when first we hear of it was on the west side of Spa Street, about 50 to 100 yards up from Upper Denburn. The ground on the east side of Spa Street was higher than the west and the water issued from the bank on the east, coming from the brae on which the Infirmary is built. Dr Barclay's tract had been the means of drawing attention to the well, and it had been furnished with a long broad stone spout projecting from the bank, which had been faced with stones. Representations of the twelve Apostles sent out by Christ to heal the sick, carved in stone, six on either side, were placed in the wall beside the spout. Among several who had benefited by drinking of the well was George Jamesone, the painter, who had suffered from stone in the bladder. The mason work of the well had become old and worn out, and he renewed it and built over it a pediment with a projecting roof.

In 1650 a spate in the Spa burn undermined the bank and a stretch of it fell with the masonry of the well, and the spring was buried up. In 1670 it was dug out, and Alexander Skene, styling himself "Philopolis"—a lover of the city—petitioned the Town Council to be allowed to rebuild the well in a surer way and farther from the burn ; and at the same time Skene having found a copy of Barelay's tract had it reprinted with an Approbation written by James Lesly, Med. Doct., Principal of Marischal College, with Testimonials from citizens benefited by the water of the well.

Skene rebuilt the well, surmounted as before with a pediment. These inscriptions were carved on the old red sandstone masonry of the well :

"As Heavens give me So give I thee."

“Hoc fonte derivata salus in Patriam
populumque fluat.”

(May health derived from this spring flow to country and people.)

“Spada Rediviva. 1670.”

(Spa come to life again. 1670.)

In the apex of the pediment there is a granite stone bearing:

“Renovatum est opus anno M. DCCC.LI.”

(The work was renewed in the year 1851.)

There are carved near the top a rose, a thistle, and a fleur-de-lis, and lower down in the middle a flat disc, for the sun, from which issue rays all round. For greater security the roof of the pediment is now a solid angular piece of cast iron.

The Well of Spa was now secure from inundation, but misfortune again overtook it. The making of the railway tunnel cut off the supply and it could not be “resuscitat,” as had been done after the fall of 1650. After remaining dry for a time the well was transferred to the east side of the street, a little farther up. Water from the Well of Gileomston at Calton Terrace was brought to the well, and a steady stream now flows from the pipe.

THIEVES' BRIG WELL.

Water was scarce in the east end of the town because there were no springs there. But there was water below ground, and we find that in 1558 licence was given by the Town Council to William Ronaldson and his neighbours to dig a well without the Thieves' Port, on the road to the Thieves' Brig, provided it were enclosed with a wall of stone and lime. It was a deep well, and the water was raised by a bucket and a rope wound on a roller by a crank. Its site was in Park Street, near No 17, not far from the mouth of Shuttle Lane.

GARDEN NOOK WELL.

George Jamesone the artist, who was in delicate health in the latter part of his life, had a country house on the

west side of Spa Street. On the north side of it he had a large square garden called the Four-Nooked Garden, in the centre of which was a well. This place is commemorated by Garden Nook Close, No 30 Denburn. A great quantity of earth was removed from it to make up the point between Skene Street and Rosemount Viaduct after the Public Library was built, and it had to be moved again when an addition was made to the west end of the Library.

HOSPITAL AND MONASTERY WELLS.

Ramsay says that St Thomas Hospital had a well, which in his time still remained in a house in Correction Wynd.

Each of the four monasteries had within its gates a draw well of its own. That at Blackfriars had been fed by the neighbouring Loch. There was also a well at the head of Jack's Brae, a few feet from the end of Gilcomston Mill.

DYERS' WELL.

In making the Denburn Valley Railway a deep draw well was found in the track of the railway, near the end of John Street. It had most likely been made for the use of the litsters or dyers, to whom the Town Council had assigned as the site of their operations a place at the outflow of the Loch into the Spa Burn. The water of this well is now utilised at a neighbouring granite cutting work.

THE THIRD WATER SUPPLY.

The original and natural supply of water for Aberdeen was the Denburn, which bounded the town from Union Bridge to its mouth between Pocra Quay and Point Law.

At some early date previous to 1398, when the burgh records begin, the two burns which fed the Loch—the Spital Burn and the Westburn—had been diverted and taken along a higher course lying north and east of the Loch and along the Guestrow to drive a mill at the east-end of Netherkirkgate, and to supply water to the residents in the higher parts of the town.

At a later period, but still apparently too early to be mentioned in the records, the Denburn had been diverted at Gilcomston Dam and brought along Leadside Road, Baker Street, Maberly Street, Spring Garden, and Loch Street, to drive a mill at Flourmill Brae and another in the Green. With this new supply was conjoined the first, which ran along the Guestrow.

PROPOSAL FOR MORE WATER.

In 1632, during the provostship of Sir Paul Menzies, a proposal was made for bringing pure spring water into the town, because that derived from the Loch, fed by the Denburn, Westburn, and Spital Burn, was “filthilic defyllit and corruptit, not onlie by gutteris daylie rynning in the burne, but also be litsters and the washing of clothes and abwssing of the water in sindrie partis with other sorts of uncleanness.” Among other sources of pollution were geese which frequented the Loch. It must be remembered that the Loch mentioned was not the original great sheet of water so named, but a long mill-dam extending along the west side of Loch Street from Spring Garden to St Paul Street. It was a few feet higher in level than the marsh in the bed of the original loch, from which it was separated by a high broad mound of stuff dug out of the bed of the mill-dam. Additions had been made of mud thrown out when the dam was cleaned occasionally by the joint efforts of the citizens. The dam was 13 feet wide at Spring Garden, 18 in the middle, and 30 at St Paul Street. The roadway along

its east side was 13 feet wide at the north end and 31 at the south. As the supply of water was scarcely sufficient for grinding meal for the people it must have been an exaggeration to say that the water of the Loch stank and was green with floating vegetation; but it could not have been fit for domestic use. As a deterrent against wilful pollution it was ordained that servant lasses who cast privies into the Loch or the burn should be joggit for two hours. Jogging (from Latin *jugum*, a *yoke*) was a punishment inflicted by inclosing the neck in an iron collar, jointed in front and fastened by a lock at the back to a staple in a wall or in a wooden post. The chain of the jugs in use in the parish of Nigg still hangs beside the door of the old church.

A head court of the citizens was called to consider the state of the Loch and to see if a new supply could be got. The craftsmen agreed to stent themselves to the extent of 1000 merks, £666 13s 4d, to provide a supply of pure water; whereupon an Act of the Privy Council of Scotland was obtained next year sanctioning the scheme; but it was seen that the sum guaranteed was insufficient, and nothing was done at the time. In a few years the troubles of the Civil War came, in which Aberdeen suffered severely both in men and means; and 1647 there was a return of the terrible plague which had often before visited the city.

Great efforts were made to ward off infection, but the disease gained an entrance. As soon as persons were seen to be smitten they were removed to huts in the Links, where those who did not recover were buried. An entry in the Burgh Records tells a sad tale. "For casting 37,000 feal to cover the graves of them that died in the infection and were buried among the sands." In making a sewer along the links some years ago the burial-place was crossed east of the rope work, and many bones were met with. More recently many skeletons were found in the foundation of a house in Carmelite Street. Bodies of persons who died of the plague had been interred in trenches in the open grassy place called the Green. No doubt the want of drainage and the abominable condition of the Loch, polluted with excrementitious matters, contributed to the virulence of the plague when it broke out; but yet it seems never to have originated spontaneously, but only by contagion.

In 1682 another attempt was made to get pure water, but the proposal was received unfavourably, owing to the

losses sustained by the citizens in the war time and to the diminished population.

CARDEN'S WELL.

It was not till 1706 that the inhabitants determined that they would no longer put up with Loch water and agreed to bear the expense of bringing pure water from Carden's Well, a spring on the left bank of the Denburn, near the Grammar School, in the line of Victoria Street and at the east end of the lane behind the feus in the east side of Skene Street. A cistern was made to which was conveyed the produce of several short collecting drains. The spring bubbled up among the sand at the edge of the burn. It was reckoned to be strong, but the discharge from it did not exceed three gallons per minute. Sometimes in dry weather it nearly failed, and then recourse was had to the Denburn to supplement it.

The spring in the margin of the Denburn is now very feeble, but a well called Carden's Well is still in existence though out of use on the east side of Carden House. The well is in the bottom of the garden behind Carden House. It was out of the town and formed the goal of many young couples out for a walk in a summer evening. At the well the chief amusement was splashing one another with water from the well. The water was in request for making tea, an expensive luxury a hundred years ago, and therefore a little extra trouble was not grudged in connection with it. Water for afternoon tea was carried to considerable distances from Carden Well, and it was frequently called the "Tea Wallie."

It is usually supposed that there must have been a saint named Carden or Cardan to whom the spring was dedicated. But the full name of this well was formerly Carden's Haugh Well, so that it had been named from a place and not a person. There is a Cardenwell in Fyvie, and several places are called Kincardine, so Carden seems to be a place name. It comes from Gaelic "cathair" (pronounced *caer*), place, seat; and "dain"; genitive of "dan," judgment—the name meaning, therefore, the well at the place where a baron held his courts (usually in the open air) for trying causes among his tenants.

The water was taken into the town by a lead pipe following the Denburn to the Well of Spa. There it left the course of the burn and went up by Black's Buildings

and along Schoolhill. At the east end of Schoolhill, on the south side of the street, it supplied a stone cistern well. Here the main pipe divided into two branches. One going south supplied a cistern well in Netherkirkgate at the head of Carnegie's Brae, opposite the end of Flournill Lane. This well is shown in "Scotia Depicta."

The rounded corner of the house between Netherkirkgate and the Brae is called Wallace Neuk. Some think that Wallace is a corruption of Well-house, making the well the origin of the name; but much more likely it arose from the supposition that the figure cased in plate armour in a niche in the corner represents Sir William Wallace, who, according to Blind Harry, visited Aberdeen. There is no doubt, however, that it represents Sir Robert Keith of Benholm, whose town residence it was. The initials S R K B, for Sir Robert Keith, Benholm, were once visible on the pediment of an upper window. Sir Robert died in 1616.

Descending Carnegie's Brae, the pipe supplied a well in the Green, shown on Taylor's Map, 1773, and another at the Shore.

The other branch ascended Upperkirkgate, and supplied a well in the Gallowgate and another in Broad Street in front of Greyfriars Church, where a reservoir was afterwards erected. There was another well near the south end of Broad Street, east side, and a large cistern well in Castlegate.

THE CASTLEGATE WELL.

This well is shown on Taylor's Map a little east of the line of Marischal Street, and it is a prominent feature in Irvine's "Castlegate in 1800." Men with barrels on sledges frequented the well collecting water, which they hauled through the streets and offered for sale. This was forbidden because they never allowed the water to accumulate in the cistern, and, the supply being small, women had usually to stand a long time at the well before they got a pair of pails filled.

The cistern was surmounted by a "Mannie," whose acquaintance young Aberdeen used to make very early in life: now he stands in the Green almost unnoticed. When the cistern was first erected a brass gilt statue three feet and a half high was ordered for the top, and four "antick" figures with three faces each were to be placed at the corners of the cope, the cost to

be added to the water debt, already amounting to £1571; but there was some delay in setting about casting the statue and figures, and the zeal of the citizens having cooled they resolved to be content with the wooden model of the "Mannie" which had been prepared. With a coat of gold leaf it looked very well for a time. In 1852 the cistern was removed to the Green; a statue cast in lead was substituted; and the "antick" figures are now seen at the corners, though they are not visible in Irvine's view of the Castlegate.

The pure water was in great demand but the supply was inadequate, and from early morn till late at night there was always some one at the well. To prevent waste and to secure that the water would not be used for other purposes than drinking and cooking it was forbidden to water horses and to wash clothes at the well and to carry water away in barrels and tubs. A housewife intending to have a big washing employed a man who had a sledge drawn by a horse to bring her a supply of water. The Loch and the Denburn were still for many people the chief supplies of water, though all alike had to bear their share of assessment to repay the well debt and to uphold the supply. When the Denburn was straightened in 1758 litsters were forbidden to scour stockings in it above the Bow Brig, and there a circular basin was formed for watering horses.

THE FOURTH WATER SUPPLY.

GILCOMSTON FOUNTAINS.

Water was so scarce in 1742 that it was resolved to bring a spring from the neighbourhood of North Rubislaw, a farm lying between the Denburn on the south and Gilcomston burn on the north.

In a nursery garden on the south side of Morningfield Road there is a well in a hollow. This well marks the site of a marsh shown on Paterson's Map, 1746, in which the Gilcomston Burn rose. Thence it ran in a pretty straight course south-east across the ground now occupied by Forest Road, Carlton Place, Fountainhall Road, Blenheim Place, and Desswood Place. From the crossing of these last two streets it ran along the south side of a row of trees in Desswood Place, formerly part of the old Fountainhall Road, and joined the Denburn a few yards above Gilcomston Dam. This small stream, which has now quite disappeared from sight, was of some importance at one time, because it was the boundary between the lands of Gilcomston belonging to the town, and Rubislaw belonging to the family of Skene of Rubislaw House; but it was still more important because it was for many years the chief water supply for Aberdeen.

The spring selected to supplement Carden's Well was probably on the site of No 37 on the south side of Desswood Place, and from it the water was conveyed by a lead pipe to the cistern at Carden's Well. It yielded five gallons per minute, and Fountainhall House in Blenheim Place took its name from this fountain. This augmentation did good, but the supply was still deficient, and in 1766 more water was obtained from the small Gilcomston Burn. A drain was cast from Short Loanings along Leadside Road, Whitehall Place, and Desswood Place, and afterwards extended to the well in the nursery garden, with branches to a well in the line of Forest Road and to another at Morningfield. The drain was formed of U-shaped channel stones with covers. Cistern houses were built at intervals to collect the produce of short branch drains and to allow sediment in the water to settle before it entered the drain. The first house was on the south side of Carlton Place, near the east end, where a skating pond was after-

wards made. Here in a very dry time in the early part of last century a well was sunk to the depth of 60 feet, and men were kept working a fire engine pump night and day to keep up the supply of water. The water from this deep well was warmer than that coming to the skating pond from the wells above it, and there was usually a spot without ice where the well was, when the rest of the pond was frozen over.

The second fountain-house was on the north side of Dessowood Place, about 160 yards from the lower end of Whitehall Place. This house remained entire till 1905, when it was removed and rebuilt in Duthie Park. On the other side of the road there was a filter house (shown in Taylor's Map), where water taken in from the Denburn by a pipe was allowed to settle and deposit sediment before being let into the main drain at the fountain-house. This, however, was done only when the spring water fell short.

Just below this settling-house the Gilcomston Burn turned south and entered the Denburn. It is important to keep in view that the pipe and the settling-house were on the estate of Rubislaw, and though for many years the right of the Town Council to have water brought by this pipe had not been challenged, yet when it was removed with the view of substituting a larger pipe and taking more water from the Denburn the proprietor of Rubislaw prevented this from being done and landed the Town Council in a great difficulty.

The third house was on the east side of Whitehall Road, where it joins Whitehall Place ; and the fourth was in the corner of a garden on the east side of the road to Westfield Terrace. The fifth was at a tree at the bottom of Craigie Loanings on the east side ; and the sixth was 140 yards farther east on the north side of Upper Leadside Road.

At the bottom of Short Loanings the water left the stone drain, and entered a lead pipe, by which it was conveyed to a reservoir erected in Broad Street in front of Greyfriars Church. It was removed in 1902 though it had not been in use after the introduction of the water of the Dee at Cairnton. The produce of the fountain-house line of springs was seventeen gallons per minute, which brought up the total supply to about twenty-six gallons. A few more cistern wells were erected in the town, and supplies were granted to the Infirmary and Gordon's Hospital. The course of the pipe was to the north of the Infirmary and the Hospital, through gardens and along George Street to Upperkirkgate.

THE RESERVOIR.

The reservoir in Broad Street was necessary because the fountains did not accumulate water but were merely contrivances for collecting water from short drains and securing that it should enter the main drain free of sediment. This was effected by making a water-tight chamber into which the short drains poured their tribute of water. Through the bottom of the chamber passed a vertical pipe communicating with the main drain below and rising a foot or more above the floor. When the water rose in the chamber sufficiently high it passed down the pipe into the drain.

The fountain houses were small, low buildings, with vaulted stone roofs. They had doors by which they could be entered to clean out the chamber. One in Desswood Place near the bottom of Whitehall Place, where the ground rose, was wholly underground and may not have had a door.

The operations for bringing water from the fountains began in 1766, and the reservoir in Broad Street was completed in 1769. Many will still remember a house with a pediment gable and a clock. It stood till 1902 though it had not been in use for forty years. Its clock had been removed before the house was taken down, and it was put up at the City Hospital at the Links. The lower part of the Waterhouse was convenient for holding workmen's tools, and the reservoir was in the upper part. When it was taken down onlookers were puzzled by the sight of two wooden floors, with an interval of a foot between them. The mystery of the two floors may be explained by an incident which happened a long time after the erection of the Waterhouse. One day there was a great commotion among the citizens on account of the strange taste of the water from the reservoir. The waterman confessed that seeing the floor of the reservoir had become leaky he had given it a coat of coal tar. Apparently this had not been permanently effective, and a new floor had been laid above the first.

The reservoir was intended to supply all the old wells in the town, and also some new wells, by gravitation. Its site was about 70 feet above the sea, and the surface of the water when it was full may have been 10 or 15 feet higher. This would have sent water to any part of the town except the highest part of the Gallowgate,

which rises to nearly 95 feet, and Seamount which is higher.

Trying to raise water to all parts of the town proved fatal to the efficient working of the system. The connection of the stone conduit with the lead pipe at Short Loanings was about 100 feet up, which gave but little fall to the reservoir, and the lead pipe was only a little over 2 inches in diameter. This was much too small with the slight fall, and the result was that it took 24 hours to fill the reservoir, and, as was afterwards found, some of the water coming down the drain never entered the pipe but escaped over the top of the channel in the stones.

THE FIFTH WATER SUPPLY.

GILCOMSTON WELL.

After a few years a demand was made for an additional supply, and in 1775 a fine spring was found in the angle between Baker Street and the east side of Calton Terrace. The well was deep, and it may have been in old red sand-stone rock, which was found in making the railway near by and also in passing a sewer under the tunnel in Hutcheon Street. Much water was found in both these operations. The well is still in existence, though few people know of it. In Baker Street an iron plate may be seen in the foot pavement near the end of Calton Terrace, and on lifting it steps are seen leading under the garden wall into the vaulted chamber containing the well. After its water was given up for town use it continued to supply a well at the corner where Baker Street and Gilcomston Steps meet. It also supplied a watering-trough at the corner of the Infirmary, and the Well of Spa after it was shifted from its original place to the back of the Infirmary.

The surface of the ground at the well is about 65 feet up, and the level of the water at the outflow had not been above 60 feet. This was too low to enter the Broad Street reservoir, but it served to supply the Infirmary, Gordon's Hospital, a cistern well at the bottom of Schoolhill, a well in the Green, and also the Shore well, which may have been at Shore Brae. This supply was called the lower or new course, to distinguish it from the Fountainhall supply, which was called the upper or old course.

This spring was a great acquisition, and for a while it greatly benefited the lower parts of the town, but two mishaps befel it. The track of the pipe conveying the water to the town was through the Lochlands, then in grass, and thence by the shortest way to the well in Schoolhill. It had been resolved to keep the Lochlands permanently in grass; but after a time houses were built, and later on the whole ground was laid out in streets for building. In the course of investigations as to the source of a waste of water, which was suspected, a leak was found under a carpenter's shop in the Lochlands.

GILCOMSTON DISTILLERY.

The mill lade from Gilcomston Dam to the Loch passed along the north side of Baker Street ; and here the Town Council had granted a site for a lint mill, with water power to scutch the lint, and a croft on the south side of the road to spread out the lint upon after being in the steep. In 1751 the mill and the croft were transferred to a distillery company on a tack of 99 years, at £3 per acre, a condition being that the tack would terminate if the property were used for any other purpose than a distillery. The business did not prosper, and in 1763 the Town Council permitted the lease to be assigned to a brewery company, with leave to take water by a lead pipe from the lade.

GILCOMSTON BREWERY.

In 1766 the company got leave to divert the mill burn to the south side of the road to drive a wheel there, on condition of returning it to the north side. This led to an extension of the brewery company's premises and business. A mill-house was erected on the south side of the road with two pairs of millstones in one end for grinding oats and wheat, and two pairs in the other for barley and malt. The mill-wheel was in a pit crossing the middle of the house, which had to be deep because the water passed over the wheel. This wheel was intended merely to drive millstones ; but another use was found for it. In digging the pit water was found. Much water was required for brewing, and hitherto the only supply had been the mill burn. The brewery company, however, wishing to have spring water for making their malt liquors, sank a deep well in the mill-house beside the wheel, and put in a pump worked by the wheel to raise water.

RIVAL WELLS.

The wells of the brewery company and the Town Council were so near each other that they were competitors for the same water, and the brewery well being the deeper it got most water. In 1791, the driest year then on record, a committee of the citizens was appointed to investigate and if possible find more water for the town. They found that by lowering the outlet from the well at Gilcomston they

got 30 gallons per minute; but as the outlet was only 20 inches above the lip of the cistern of the Schoolhill well the pipe did not take in more than 6 gallons per minute. Some persons had been advocating a new supply from two springs at Hazelhead on the Holburn, and to help them to decide what they should do the committee brought to Aberdeen Mr Gordon, superintendent of the Edinburgh Waterworks, who got 50 guineas to report on the water.

By cutting the pipes on both the upper and lower courses at the lowest places and testing the discharges there and at the cisterns and reservoir, Mr Gordon was able to show that insufficient fall was the main cause of the insufficiency of both systems. He therefore proposed to take up the 2 or $2\frac{1}{2}$ -inch lead pipe and substitute for it a 3-inch pipe made of trunks of elm trees. This would carry more water; and to get more fall he proposed also to substitute for the stone conduit pipes of elm, which would retain at the lower end water entering at the fountains on the upper part of the course. The Aberdonians objected to wooden pipes, but Mr Gordon assured them that they were in use in London, Newcastle, Perth, and Edinburgh. In London, water was supplied to any place only once in 48 hours, and as the pipes gave the water a taste few people drank water there. In Edinburgh other materials, lead and iron, were also in use. In Perth fir had been tried, but had been given up for lead. Mr Gordon recommended wood because it was cheap and would last 30 years; and it was easier to make connections with it than with iron pipes. He recommended also that water should be brought in elm pipes from Hazelhead, which would double the supply.

It was resolved to adopt Mr Gordon's recommendations, but to use iron instead of wood. A bill was prepared and brought into Parliament in 1794; but it did not pass. It made provision for paying off a large sum alleged to be still due on former schemes, whereas the citizens said that if the Town Council had kept the water accounts properly and separately it would have been seen that the debt incurred on account of the water had been already paid, and they opposed the bill.

ACT OF 1795.

In 1795 another bill was promoted on the same lines and it passed, but with the provision that water should not be brought from Hazelhead till every possible effort had been made to increase the supply from the existing sources at Fountainhall and Gilcomston. The execution

of the powers conferred by the Act was given to a Water Commission, not to the Town Council, and the powers were limited to 21 years.

Little was done under the new Act till 1806, when the lead pipe of the upper course was taken up and 5-inch iron pipes—cast in Aberdeen—were substituted. After serving their purpose these were taken up, and some of them may still be seen at the Police Stores in Jasmine Terrace. They were flanged at the ends, and connected by bolts. The town was very proud of the quality and workmanship of the pipes; and still more of the success attending their introduction. They were tried with water from the mill burn, and they filled the reservoir in four hours, whereas the lead pipe required a whole day. This was just what they ought to have done, seeing that the sectional area of the iron pipes was more than four times that of the lead.

About this time it was discovered that there was a leak in the low course pipe under a carpenter's shop off George Street, where 21 gallons out of 30 entering the pipe at Gilcomston Well were lost. The lead pipe was taken up and a 4-inch cast-iron pipe was substituted. The new pipe was laid down in the lines of streets instead of taking short cuts through gardens in the Lochlands. At the junction of George Street and Schoolhill and Upperkirkgate the pipes of the upper and lower courses crossed each other, and a connection was made between them, furnished with a stop-cock. On filling the pipes and opening the cock it was found that the cistern at Short Loanings ceased to overflow, which it had been doing for some time. This showed that there was too little fall on the higher course between Short Loanings and the reservoir in Broad Street. To secure more fall on the upper course the stone conduit was taken up, and a 6-inch iron pipe was laid down from Short Loanings to fountain No 1 at Carlton Place. No additional pressure would have been gained if the pipe had been open to receive water at all the old fountains. We may, therefore, assume that the iron pipe had been close as far up as to Craigie Loanings, where there would have been a gain of 10 feet of fall on the upper course.

The water from the lower fountains must have been excluded, and to compensate for this the main drain was extended to the nursery well, with branches to the Forest Road and Morningfield springs. The Water Commission was bound by the Act of 1795 to make every possible effort to increase the supply from the existing sources before going to Hazelhead, and so they resolved to take more

water from the Denburn. In 1807 they took up the small lead pipe which had hitherto been used to take in burn water in dry times. Its diameter was said by the Commissioners to have been $2\frac{1}{2}$ inches. It was not, however, till 1812 that another and larger pipe of cast-iron was substituted for it. Mr Skene of Rubislaw gave his consent, but the Gilcomston Brewery Company objected on account of the loss of driving power for their mill wheel by the abstraction of the water. The Commissioners gave them a solatium of £60 or £70, and this difficulty was overcome. There was a filtering bed in a small house in Mr Skene's ground on the south side of Desswood Place, and after passing through it the water was taken across the road to a fountain-house, where it entered the main pipe. Traces of the filtering house were still visible in the beginning of this century; but it and all the fountain-houses have disappeared.

The Aberdeenshire Canal had been opened in 1805, and it supplied water suitable for washing and other cleaning purposes, though not for drinking or cooking. Many pump wells had been sunk for the new houses in Union Street. West of Union Bridge every new house had a pump of its own, or the right to take water from one common to several houses. The lowering of the outflow of Gilcomston Well had rendered this supply unavailable for any but the lower parts of the town; but the quantity was maintained and it amounted to 30-40 gallons per minute. From all sources the supply of Aberdeen amounted to about 100 gallons per minute, and the town had never before in its history been so well supplied with pure water.

THE BISHOPRIC OF MORTLACH.

There was long a general belief, not yet extinct, that there was once an Episcopal see at Mortlach, afterwards transferred to Aberdon. The original foundation was said to have been made by Malcolm II. in 1010, and the transference by David I. in 1132. Two historians of Scotland, Fordun and Boece, mention the Bishopric of Mortlach.

Fordun was a priest, and he is believed to have been a chaplain in the Cathedral of Aberdon. Some support is given to this belief by the fact that he knew the proper names for the two towns between Don and Dee, which strangers seldom did. As a chaplain in the Cathedral he would easily have had access to the charters in the custody of the Chancellor. Fordun wrote his "History of Scotland" in Latin, between 1363 and 1385. The following is a translation of the passage in which he refers to the Bishopric of Mortlach:—

In the seventh year of the reign of Malcolm [II.], anxious to increase the worship of God, he established a new episcopal see at Murthillach, not far from the place where having defeated the Norwegians he gained a victory, and endowed it with very many rents from lands. Moreover, he appointed for its diocese the territory extending from the Dee to the Spey. To this see at the instance of the King, Beyn, a holy man and worthy of the episcopate, was appointed first bishop by the supreme pontiff Benedict VIII.

Benedict VIII. was Pope 1012-1024. In the title of the chapter in which the passage occurs there is mention also of the translation of the see to Aberdon.

Regarding this statement by Fordun, Cosmo Innes, editor of "Registrum Episcopatus Aberdonensis," says in the preface that Fordun had based it upon the tradition of the Church of Aberdeen, which, however, he had falsified or mistaken by substituting Malcolm II. (1005-1034) for Malcolm III. (1057-1093) of the episcopal registers. As Cosmo Innes is the only authority on whom the belief in the Bishopric of Mortlach depends it is necessary to see upon what grounds he made this charge against Fordun. There are in the Registrum two, and only two, documents referring to the Bishopric of Mortlach which could have been written before the publication of Fordun's history. The first is a charter pronounced by Cosmo Innes to be a forgery. Fordun was perhaps the author of it himself.

If he was not he would have had no reason to doubt its genuineness. It is the first in the *Registrum*, and being in Latin a literal translation may be given:—

Charter of King Malcolm given to Bishop Beyn concerning Morthelach. Malcolm King of Scots to all his good men both clerics and laics—Welfare. Know that I have given and by this charter have confirmed to God and the blessed Mary, and to all the Saints, and to Bishop Beyn of Morthelach the Church of Morthelach that an episcopal see may be built there, with my lands of Morthelach, the Church of Cloneth with the land, the Church of Dulmech with the land, as freely as I have held them and in pure and perpetual charity. Witness my hand, at Forfar on the eighth day of October in the sixth year of my reign.

There is a close agreement between this charter and Fordun's statement, and it is very manifest that he neither falsified it nor mistook its meaning. The charter gives no hint which Malcolm it referred to, and Fordun made him the Second, not without a reason. He wished to give a cause for the institution of a bishopric at Mortlach and made it the scene of a victory gained by Malcolm. Had he selected Malcolm III. he could not have made him gain a victory at Mortlach, though he might have done so at some place in the centre of Scotland or in the north of England. It was, however, within the bounds of possibility that Malcolm II. might have gained a victory at Mortlach, and therefore he selected him as his conquering hero, and the marauding and church-plundering Norsemen of his time as the vanquished. To add to the eclat of the institution he resolved to give the appointment of the first bishop to the Pope, which made it necessary to select Benedict VIII., whose era almost synchronised with that of Malcolm II. Fordun probably did not know that bishopries and cathedrals were the creatures of the feudal system; probably did not know that it did not begin to come into operation in Scotland till the time of Edgar or Alexander I.; and, not thinking of the difficulty he was creating for Cosmo Innes, he thought it a good thing to carry the foundation of the Bishopric of Mortlach well back. This the editor of the *Registrum* repaid by stigmatising Fordun as either a rogue or a fool for not making Malcolm III. the founder of the bishopric. Cosmo Innes was angry because, though there was none so anxious to make the origin of the Bishopric of Aberdon early, to let Fordun's unequivocal statement stand uncontradicted was to admit that there was not a Bishopric of Mortlach, for no one now could believe that there was a territorial bishopric so early in Scotland.

Let us now see upon what ground Cosmo Innes says the founder of the Mortlach bishopric was Malcolm III. He says it was the unvarying tradition of the Church, which he finds in an attempt at making up a Table of Contents of the "Album Registrum," one of the volumes from which the "Registrum Episcopatus Aberdonensis" was compiled. Cosmo Innes says no part of the volume is older than the middle of the fourteenth century, but he thinks the Table of Contents had been attempted before the era of Fordun. A lithographic copy of the table is given in the preface to the Registrum, with a reading by Cosmo Innes showing what he supposes it had originally said: for it has manifestly undergone alterations and erasures. His reproduction, translated into English, reads thus:—

In the thousand and seventieth year of the Lord, Malcolm King of Scots son of Kenneth married Saint Margaret the queen. And in the sixth year of his reign was founded the episcopal see at Mortlach, as is contained in the first folio of the first quarto volume. And in process of time the episcopal see was transferred to Aberdon by David his son King of Scotland and endowed as is contained in the same folio.

Letter of the foresaid Maleolm Canmore concerning the foundation of the episcopal see at Mortlach.

Three letters of his great-grandson Malcolm King of Scotland confirming donations of David King of Scotland, his grandfather.

Letter of David King of Scotland, eldest son of Malcolm and Saint Margaret, conceding and granting many possessions, churches, and the tithes of all his revenues between the rivers Dee and Spey.

This is the whole table. It is evidently the work of an ignorant man who makes the founder of the Bishopric of Mortlach both the son of Kenneth—Malcolm II., and the husband of Queen Margaret—Malcolm III. He also makes David I. eldest son of Malcolm Canmore and Margaret, whereas he was the youngest. Regarding this table three things must be observed. There is no evidence that this was the tradition of the Church of Aberdon, no evidence that Fordun ever saw it, no evidence that it had been written when his history was published. But even if he had seen the table who could blame him for ignoring it and forming his own opinion as to the grantor of the first charter? The charter is admitted to be a forgery, which is a sure proof that it was antedated for a fraudulent purpose. It may have been written before Fordun's time; it may have been written by Fordun himself; or it may have been written after the publication of his history and based upon it. The Table tells us that it follows this charter, and Cosmo Innes wrongs himself and us when

he speaks of the table as a record of high antiquity and invites us to receive it as evidence that a bishop's see was founded at Mortlach in 1063, the sixth year of the reign of Malcolm Canmore. Led astray by respect for Cosmo Innes's great name the author of "Scotland" in the "Encyclopaedia Britannica" has blown hot and cold out of the same mouth on the Mortlach Bishopric question. Writing of Malcolm III. he has twice said that he founded the See of Mortlach. Writing of Alexander I. he says that at his accession St Andrews was the sole bishopric in Scotland; and writing of David I. he says he found three and left nine bishoprics, adding to St Andrews, Moray and Dunkeld the new sees of Glasgow, Brechin, Dunblane, Aberdeen (transferred from Mortlach), Ross, and Caithness, making David the founder of Mortlach, which no one had done before.

Boece, the first Principal of the University of Aberdon, published in 1522 "Lives of the Bishops of Mortlach and Aberdon," written in Latin. Of course he was well acquainted with what Fordun had written before 1385, and he must have been familiar with the two documents Fordun is believed to have seen. In his Lives he says that Malcolm, the son of Kenneth, wishing to soften the fierce dispositions of his subjects dwelling between the Dee and the Spey, established the pontifical office of Bishop of Murthlac in the sixth year of his reign and the thousand and tenth year after the Incarnation and gave him the lands of Murthlac and others to build a sacred house and support bishops in all time to come. Not to be behind his predecessor Fordun in adding embellishment to the record he gives the number of bishops who were at Murthlac, their names, the duration of their episcopates, their characters, deaths, and burials as if he had found in the Cathedral at Aberdon a well-kept ecclesiastical register. He retains the name Bean for the first bishop, as given in the first charter and in Fordun, with a slightly different spelling. This may be the Gaelic word "beannuichte," holy or blessed, abbreviated. Fordun calls Bean a holy man. The second bishop Boece calls Donortius, which seems to be an unmeaning fictitious name. The third he calls Cormach, a Gaelic word meaning a brewer. Gorm, an Irish word, means noble, and Gormach if it had existed would have meant most noble. In all that he says regarding the bishopric he follows the first charter and Fordun, the chief addition being the names of the second and third bishops.

In his "History" Boece changes the motive for erecting the bishopric, saying that in a battle with the Danes at Mortlach Malcolm vowed that if victorious he would build a cathedral there and in fulfilment of his vow built a cathedral at great expense and dedicated it to St Moloch. In other things he follows the first charter, but he has substituted Danes for Fordun's Norwegians, and he says the cathedral was actually built, whereas it was only to be built in previous notices. He adds that Malcolm Canmore found at his accession four bishoprics and left other two, and that David I., respecting a wish of his father, transferred the seat of the Bishopric of Mortlach to Aberdon, and changed its name.

In Registrum, II. 125-6, there is a chapter of cathedral history titled:—"Concerning the foundation and translation of the episcopal see and the succession of the bishops." This Cosmo Innes calls the oldest record, and he says it was written about 1400 and continued to 1546. He marks off by square brackets the part referring to bishops after 1400 as, in his opinion, written by a later hand than the beginning; but the earlier part contains internal evidence that it was written after 1435, when Boece's Lives containing the names of the Mortlach and Aberdon bishops had been published. Boece, therefore, it was who introduced the names of the second and third Mortlach bishops. The beginning of the chapter runs:—

In the time of Malcolm King of Scotland, son of Kenach, by that Malcolm the episcopal see was at first constituted at Morthlach, who endowed the church of Mortlach with the lands of Mortlaeh and with the land and church of bishop's Cloueth [and with the church and lands of Dunmeth]. And there were three bishops in succession. The first bishop holding the see there was called Beyn; the second bishop was called Donereius; the third bishop was callel Cormauch. And in process of time the episcopal see was transferred to Aberdon by David King of Scotland, son of Malecom Kenmore.

This shows that it was not correct to say that there was an unvarying tradition in the Church that Malcolm Canmore founded the bishopric.

Both Fordun and Boece have bad reputations as historians. They have been called fabulous and mendacious. Certainly much of what they wrote is inaccurate and often incredible, but they did not write to deceive people. They wrote on the history of Scotland as a basis, but with the main design of producing books which would be interesting. If we begin at the end of the books, we find that as a rule they state historical facts within their

own knowledge correctly. As we go back the known facts are too meagre to be interesting, and they add embellishing circumstances. Farther back facts entirely fail, but the history goes on, pure fiction, till it can go no farther. Fordun stops not till he has reached the time of Noah. Boece tells first one tale about the Cathedral of Mortlach and then a different, without a word of apology or explanation. In the Lives he makes the King supply the funds, and lets the bishop build the cathedral. In the "History" he makes the King build it himself, at great expense.

Many people, finding in books no reliable evidence of a bishopric and cathedral, have gone to Mortlach to see if they could find any traces of a cathedral there; but there is nothing save a plain, old, country, parish church. There never was a cathedral at Mortlach except on a page of Boece's "History of Scotland." Is there nothing, then, that could have suggested the idea of a cathedral? Absolutely nothing except a great stone with a cross and some symbols which puzzle the antiquaries. But such stones really did serve the same purposes as chapels, churches, and cathedrals were often built to do. They marked burying places, where prayers ought to be said for departed souls. There is in Strachan a place called Idle-stone. The spelling of the name shows that its meaning has been lost but the sound tells that it marks a burying-place where, in the time of the old Church of Scotland, prayers were said, for "eidil" in Irish means prayer and priest, and it had once been in Gaelic too. Beyond doubt prayers had been wont to be made at the Sculptured Stone at Mortlach. Fordun and Boece both made it a memorial of a great victory, and hence a place where prayers should be said for the souls of the patriots killed in the victory. Boece was a native of Angus and familiar with the Sculptured Stone at Aberlemno, of which there is a cast in the Aberdeen Sculpture Gallery. One side bears a cross, and the other a battle scene representing the death of Goliath of Gath and the flight of the Lords of the Philistines. Boece makes this stone a memorial of a victory over the Danes and adds that there is a cathedral at Brechin, only four [five] miles off, just as if the stone had been the precursor of the cathedral.

The first charter of the *Registrum* was not concocted without a purpose. That purpose evidently was to back up a claim already made, or to be made at some future time, by the Chapter of the Cathedral of Aberdon to the

church revenues and the lands of Mortlach and others. It would then be necessary to assign a good reason for the King's making so liberal a grant. Then the big stone with the cross upon it could be appealed to as proof that a great national victory had been gained there, and that the King had given the grant that a cathedral might be erected where prayers for the souls of patriots killed in battle might be made and masses said every day.

THE CATHEDRAL OF ABERDON.

FORGED CHARTERS.

Before entering on the authentic history of the Cathedral it will be useful to take note of the documents in “*Registrum Episcopatus Aberdonensis*” which must be rejected as spurious, and to state the grounds on which they have been held to be forgeries.

The first is charter No 1, *Registrum*, I. 3, which Fordun and Boece accepted as a genuine charter of Malcolm II. granted in the sixth year of his reign—that is in 1010. Cosmo Innes believed the statements in the charter to be facts, but held that it pretended to be granted by Malcolm III. in the sixth year of his reign—that is in 1062—and must be a forgery, because there is no authentic Scotch charter so old as this Malcolm's reign. The style also is against the genuineness of the charter, being too modern (*Registrum*, I. xii). Innes was liable to be biassed, and he was sometimes careless; but when he gave an unprejudiced mind to the study of a questionable point in old Scotch documents there was no higher authority, and his opinion regarding the genuineness of the charter is accepted by all. We reject it on the additional ground that for the purpose of backing up a claim to lands it asserts that they were given for erecting an Episcopal seat or cathedral at Mortlach, either in 1010 or in 1062, no matter which; whereas there is no evidence that there was a territorial bishopric in Scotland before the reign of Alexander I. (1107-1124). This carries with it the rejection of the statements made by Fordun (“History,” IV. 40; Skene's Edition), and by Boece (Lives, 7; New Spalding Club Edition), and also the statements made regarding the bishopric in his “History of Scotland.”

The second document is charter No 2, *Registrum*, I. 3, dated 1136, professing to be granted by David I. Innes rejects it, partly on account of its style, partly because it makes no mention of the cathedral at Mortlach or of the translation of the Bishop of Aberdeen. While holding this silence to be an argument in its favour we reject it because it calls Aberdeen old at four years after the date by universal consent assigned to the establishment of the Cathedral, when the town began;

and also because it mentions as in existence in 1136 the Church of St Peter's Hospital, founded 1172-1199.

The third is charter No 3, Registrum, I. 4, professing to be a charter of Malcolm IV. granted in 1155, and to be witnessed by Edward the Chancellor, and William the Chamberlain of Scotland. Innes shows that neither Edward nor William held the offices assigned to them at the date given. We add that it makes Aberdon prematurely old.

The fourth is the famous bull of Adrian IV. dated 1157, Registrum, I. 6, 74, 84, 86, which Innes says affords "all the materials for testing its authenticity, and, submitted to all the tests, stands undeniably authentic." Notwithstanding this blazing certificate we take exception to this bull on several grounds.

First. The bull is not in existence and the presumption is that it never existed. It is first mentioned in 1344, when it, or what was said to be it, and other documents were exhibited in a Parliament held at Scone in support of a claim by the Bishop of Aberdon to second tithes. It is mentioned again in connection with second tithes in a charter of David II. In this expression second seems to mean smaller or secondary, referring not to the produce of the ground but to certain not very productive sources of revenue accruing to the Crown and liable to be overlooked. It is said to have been shown at a provincial council of the Scotch Church, held in Blackfriars Monastery, Aberdeen, in 1359. This council is not elsewhere mentioned and there is no reason to suppose that it was ever held. If it had been established that the council was held we should want to be told why the bull was exhibited on that occasion. The council is said to have signed and sealed a copy of the original bull or papal letter certifying that they had inspected the original letter of the Pope, that it had not been destroyed by age, nor had suffered from erasures, also that the lead bulla of the Pope was then still attached. The bulla or lead seal is a circular disk of lead, more than an inch in diameter, and more than an eighth of an inch thick having two holes bored through it horizontally. To authenticate a document two holes are pierced in the parchment, a little distance apart. A cord is passed through the holes, the two halves are then knotted together, and the loose ends are drawn through the holes in the bulla, which is then compressed firmly upon the cords, so that they cannot be drawn out. One side of the bulla bears the name of the

Pope, and the other the heads of Peter and Paul. It is then complete, and needs no signature of Pope or cardinal. The document shown at the council was too well attested to be genuine, for it was a document of no importance in itself. It contained no grant from the Pope, but merely enumerated the things which he had been told belonged to the Cathedral.

Secondly. The bull is said to have been given by the Pope's Chancellor, the literary man of St Peter's, who must have known good Latin, but it contains:—"totam villam veteris Abbirdone," for "totam villam vetus Abbirdone," the whole town of old Aberdon. The place where the bull was said to have been granted is Signia, now Segni, south-east from Rome. This place was at one time a residence of bishops but not at the time when the bull is said to have been granted, and therefore it is unlikely that a bull would have been granted by the Pope and signed by him and eight cardinals at Signia in 1157.

Thirdly. The contents of the bull show that it cannot be genuine. It begins by speaking of the bishop and his successors canonically appointed. It makes no difference whether we translate "canonice" by rule, or by the canons, for the rule of the Church of Aberdon was that the canons chose the bishop; but farther on the bull gives the bishop authority to appoint canons. So the bishop had been for five-and-twenty years carrying on the business of his diocese without the advice and sanction of a Chapter of canons, and apparently nominating his own successor! The bull names over a number of churches whose revenues belonged to the cathedral. The first is the Church of Abbirdein, and the second is the Church of St Machor. If Abbirdein stands for Aberdon, then the author of the bull did not know that these were two names in use for the same church. If it stands for Aberdeen, then it must mean the Chapel or Church of St Peter's Hospital, but it was not founded till after 1157, the pretended date of the bull. That its real date was later than 1157 is manifest by its calling Aberdon old, whereas it was then only twenty-five years founded. A cardinal objection to the bull is that it creates two monasteries never heard of before or since, Cloueth and Murthillach. It is absurd to suppose either that the Pope had an incorrect list of the religious houses in Scotland, or that the bishop had sent him a request that he would say that the monasteries of Cloueth and Murthillach were then in existence and belonged to the

cathedral. The main design of the bull was to support a claim to second tithes and to lands at Mortlach.

The fifth document is a letter from Malcolm IV. to Bishop Matthew, dated 1163, witnessed by Edward the Chancellor and John the Chamberlain. Innes shows that neither the grantee nor the witnesses held office in the reign of Malcolm IV. This is enough; but we may add that the letter calls Aberdon old at the age of thirty-one, and makes the King grant the bishop the Church of the Kyrkton before it was founded.

The sixth document (*Registrum*, I. 8) professes to have been granted by Malcolm IV. to Bishop Matthew, who was not bishop in his reign.

The seventh is *Registrum*, I. 8. Innes passes this as genuine, but we object to calling Aberdon old before the end of the twelfth century. It may be said in favour of this charter that though witnessed by William Comyn, afterwards Earl of Buchan, it does not call him Earl prematurely.

The eighth document, *Registrum*, I. 9, is passed by Innes as all right. This shows how careless he could be at a time. It represents William the Lion as saying that his brother gave second tithes to Bishop Matthew. The brother was Malcolm IV., whose era (1153-1165) did not at all coincide with that of Bishop Matthew (1172-1199). Moreover, the second tithes were those mentioned in a charter of Malcolm which Innes had pronounced a forgery.

Adrian's forged bull was written probably not long before 1560, and the other charters seem to have been concocted about the same time, long after their pretended dates; hence the blunders they make about the Kings and State officers, the eras of the bishops, and the age of Aberdon.

To the list of fictitious documents must be added all charters, inquisitions, etc., in the *Registrum* ascribed to the reign of David II. (1329-1370), in which there is mention of second tithes or Adrian's bull, they contain internal evidence of various kinds that they are not trustworthy.

The Table of Contents (*Registrum*, I. xvii.) must be rejected also, though it contains what Innes calls the tradition of the church and is the sole foundation on which he builds the bishopric of Mortlach. Its author identified Malcolm II. with Malcolm III., and he made a bishopric at Mortlach before territorial bishopries were instituted.

“Statuta Ecclesie Aberdonensis” (Registrum, II. 38-50), though very plausible, must be rejected on several grounds, especially because it supposes that St Peter’s Hospital was originally a nunnery and that after its transformation the revenues went to the dean. It also supposes that the cathedral took the place of the Church of the Kyrkton. Pretending to have been written in 1256, its real date was nearly three hundred years later.

Next goes out “De fundatione et translatione sedis episcopalis atque de episcoporum successione” (Registrum, II. 125, 126). Its faults are making Malcolm II. found a bishopric at Mortlach and giving three fictitious bishops there; the transference of the fictitious bishopric to Aberdon; believing Adrian’s bull to be genuine; making Bishop Matthew contemporary with Malcolm IV. and making this King a virgin though he had an illegitimate son. The succession of bishops follows Boece as far as it goes, but it stops at 1546. Innes quite arbitrarily divides the succession into two parts, one ending at 1426, and he makes this the date of the writing of the first part. This is done to get the support of an old document for his Mortlach bishops, but the document is all of the same age, dating from 1546, and of no better authority than Boece, from whom it is taken.

In Gavin Dunbar’s “Epistolare,” written at Antwerp in 1527 (Registrum, II. 246-253), there is a succession of the bishops of Aberdon, beginning with Beyn, appointed by Malcolm Kennedi, and ending with Gavin Dunbar. The catalogue follows Boece and is fictitious at the beginning and correct after Nectan is reached.

The result of purging the Registrum of fictitious and false documents is that the authentic history of the bishopric of Aberdon is not carried farther back than the time of David I. (1124-1153), that Aberdon was not old in the twelfth century, that there was no Church of the Kirktown but the Chapel of St Peter’s Hospital, not founded before 1172. For some time before 1344 the Masters of the Hospital had appropriated the revenues of the Hospital to their own use, and it had ceased to be occupied by decayed chaplains. The Masters had, however, continued to carry on religious services in the chapel because they were a source of additional income to them.

BISHOPRIC OF ABERDON.

The first authentic mention of a Bishop of Aberdon is in a notice contained in the "Book of Deer" of a gift of land made by Gartnait Mormaer of Buchan and his wife Ete. The grant was made in the eighth year of the reign of David I., which began April 27, 1131. Among the witnesses to the deed of gift was Nectan escob Ab'b':—that is, Nectan, Bishop of Aberdon. As his name occurs incidentally and not in a historical account of the bishopric it is not at all certain that he was the first Bishop of Aberdon.

Unless we suppose that there were no churches in the shires of Aberdeen and Banff before 1132, except some of the ancient Columban foundations, we must of necessity assume that there had been a Bishop to oversee them. Before the feudal system began a landholder, willing to make provision for a priest by a gift of land, might establish a church, and St Peter's of Inveraven seems from "Registrum Moraviense" to have been established before it became a parish church; but such churches were few. When the land was nationalised under the feudal system the Sovereign could order the whole country to be divided into dioceses, and he could set over them as Bishops men high in the confidence of the Pope and the feudal earls. These, armed with the authority of the Sovereign, could compel the Crown vassals to divide the diocese into parishes and build churches and pay tithes to priests. The feudal system may have begun in the reign of Edgar (1097-1107). It certainly was in operation in the reign of his successor, Alexander I. (1107-1124), and we make no doubt that there was a Bishop of Aberdon before the end of his reign.

All that can be said with historical accuracy is that between 1097 and 1132 by the co-operation of the Pope, the Sovereign, the Bishop of the diocese, the Crown vassals, and the husbandmen, some parishes had been defined in Aberdeen and Banff, churches had been built, tithes had been promised, and priests had been appointed. One of the churches with its parish is said to have been dedicated to St Machar (Registrum, I. 230, 249). This saint was known by many different names. One of these, Machorius or Machor in English, occurs often in the "Registrum Episcopatus Aberdonensis." Another, Mauricius, is found in the Registrum in 1499 and in the

“Register of the Great Seal” in 1569. The modern form of the name, Machar, has possibly originated in a supposed connection of the name with the Gaelic word “machair,” an alluvial haugh. A childish legend accounting for the selection of the site near a bend of the Don is given in “Aberdon Breviary.” A place in Kildrummy is called Macharshaugh, evidently from its situation, and the Ythan has a Machar ford below Ellon. St Machar was a disciple of St Columba, who died in 597, and there is no known connection between him and the pre-Cathedral Church of Aberdon but the name.

THE CATHEDRAL CHURCH.

Probably from its situation the Church of St Machor had been selected as the seat of the Bishopric of Aberdon, but as soon as practicable the small parish church had given place to a larger, dedicated to St Mary. It was sometimes styled the Church of St Machor, sometimes the Church of St Mary, sometimes the Church of St Mary and St Machor; but the normal name was the Cathedral Church of Aberdon. It still, however, remained to all intents and purposes a parish church.

The forged bull of Adrian gives the Bishop authority to appoint resident monks or canons. Its author seems to have fancied that the Bishop could conduct the business of his diocese with the clergymen of neighbouring parishes for higher dignitaries and two or three chaplains to officiate in the Cathedral; whereas it was of the very essence of the episcopate that the Bishop should have a chapter of resident canons, by whose advice he should resolve and through whom he should act. He needed no special permission from the Pope after 25 years to appoint canons, unless for that length of time nothing had been done to organise the business of the diocese and to make the Cathedral a reflection of the Temple of Jerusalem.

It would be vain to attempt to convey an adequate idea of the smallness and lowness of the houses of all classes in our country at the time when the Cathedral establishment was set up. Even in 1650 the first parish church of Monquhitter was built of feal or grassy sods. About the same time the mansions of powerful Highland chiefs were built of mossy, heathery sods. Such walls could not carry couples, and, before beginning to build, the couples were placed with their feet in the ground, and the walls

were built up between and outside of them. The internal divisions were of wattlework, plastered on both sides with clay. From the Town Council Records we see that the chimneys of houses in Aberdeen were usually of this make, though they had also been wound with straw ropes to prevent the clay from being washed off by rain. Undoubtedly the walls of the first Cathedral and the manses had been of sods from the muir we read of near the north-west port of the Chanonry, or clay from the "mortar hole" at the south end of the Bishop's Loch. In 1537, when the Cathedral was in its full glory, the Sang School before the Cross, on the west side, was "bygit with yerd and diyk." This may mean alternate layers of sods and undressed stones, formerly a common style of wall. The roofs were covered with thatch or heather. A later improved roof was thin sandstone slabs from Turin Hill in Forfarshire, for churches, and tiles for common houses; but slates are more modern.

The windows were windholes opened to let in air and light and closed with loose boards held in place by snecks, or with hinged shutters. When windows were left open birds got in, and it was the duty of the Sacrist to keep pigeons, jackdaws, crows, and swallows out of the Cathedral. The want of glass for windows required the use of oil for lamps and wax for candles, and the use of wax candles in religious services once begun had continued from custom long after it was a necessity. An early bequest recorded in the Registrum is two stones of wax annually to the Chapel of Rattray by the Earl of Buchan from the land of Strichen. We are reminded that wicks made of cotton for lamps and candles were not on sale by the first item in the inventory of goods left by Bishop Alexander Gordon to be taken over by his successor. It reads:—"Five payr of riffyne schetis, ane therof sewit with sylk, for candilweikkis."

THE CHAPTER AND CANONS.

The first authentic notice of the Chapter and the canons is in 1240, when the four dignified canons—dean, chantor, treasurer, chancellor and seven other canons without special offices sign a letter of Bishop Ralph relieving them from certain exactions due to him by them (Registrum, I. 15).

In 1506 the pay-roll shows that there were then six

high dignitaries and twenty-three ordinary canons forming the Chapter, besides fifteen endowed chaplains and various others of lower grade.

DIGNITARIES WITH THEIR PARISHES OR PREBENDS.

Bishop	-	-	-	-	St Nicholas.
Dean	-	-	-	-	St Machar.
Chantor	-	-	-	-	Auchterless.
Chancellor	-	-	-	-	Birse.
Treasurer	-	-	-	-	Daviot.
Archdeacon	-	-	-	-	Rayne.

CANONS.

Belhelvie.	Mortlach.	Oyne.
Cruden.	Clatt.	Banchory.
Deer.	Crimond.	Loumay.
Aberdour.	Forbes.	Ellon.
Kincardine.	Invernochty.	Philorth.
Methlick.	Tullynestle.	Dulmayok.
Turriff.	Kinkell.	Coldstone.
Rathven.	Monymusk.	

ENDOWED CHAPLAINRIES.

Foveran.	Fyvie.
Kildrummy.	Fola.
King-Edward.	Logie-Buchan.
Auchtydonald.	Logie-Mar.
Alvah.	Bishops (3).
Ellon.	Spital (2).

After a time one of the Spital chaplains became Rector of Spital parish with a seat in the Chapter.

Orem, who wrote an account of Old Aberdeen in 1724-5, has indicated the position of a large number of the prebendary manses from information given by the owners or occupants, and some additional information is supplied by the "Register of the Great Seal" for years following the Reformation. Several prebendaries had not separate manses but lived in the Chaplain's Court or in Aberdon.

THE PREBENDARY MANSES.

On the west side of the street called Chanonry and on the north side of the modern Cluny Wynd was a chaplain's chamber and tenement; then followed in order going northward the manses of the prebendaries of Invernochty, Turriff, Methlick, Kincardine, Deer, Cruden, Ellon, Banchory-Devenick, Oyne. Further north and opposite the churchyard were the manses of Rayne, Clatt, and Mortlach. West of Mortlach was the manse of Lonmay, afterwards of Kinkell. On the north side of the road to Cotton beside Tillydron was the manse of Westhall, and farther east that of Tullynestle, Dunbar's Hospital, and opposite the end of the street the manse of Monymusk. On the east side of the Chanonry, going north, was the manse of the chaplain of St Katharine's altar and chapel in the Cathedral—probably on the site on which the Town House stands—and north of it was the manse of Philorth on the site where the common ale-house once stood, and north of it the manse of Forbes.

On the south side of the part of the Chanonry going east there were the manses of Belhelvie on the corner, Daviot, St Machar, Anchterless, and Birse. Belhelvie manse was a large house, but its ground did not extend so far south as that of its neighbour Daviot, which was bounded on the south by the grounds of the manse of Philorth. When the ale-house stood there it had probably opened both to the Chanonry for the convenience of the canons, and to Don Street for the benefit of those residing outside the Chanonry.

On the north side of the east part of the Chanonry were the churchyard and the Cathedral. Probably the original St Machar's Church had been on the same site, else there would have been somewhere in the neighbourhood another churchyard. At the east end of the churchyard was the bishop's court, with a tower at each of the corners. The bishop's palace was on the middle of the west side of the court. In the centre of the court there was a large draw-well lined with dressed sandstone. When stones were wanted for fortifying the Castlehill in Aberdeen, during the Protectorate of Oliver Cromwell, workmen were employed to take out the lining of the well; but after some progress had been made with the work the sides of the well fell in upon the workmen. East of the court was the bishop's garden; and south of it was a large court,

within whieh lived twenty chaplains. Being far from water they had a draw-well within their own court.

When Bishop Henry suppressed St Peter's Hospital and instituted two chaplainries instead he allotted to each of the two chaplains a bit of garden with a chamber in it, on the east side of the part of the Chanonry opposite the manse of Birse. The gardens extended each three roods along the Chanonry and eight roods and a half back from the street. Connected with the ecclesiastical community, but outside the Chanonry, was the Sang School with the music master's house, on the south side of Cluny Wynd and the west side of High Street.

THE CHANONRY.

The Chanonry seems to have formed part of an estate or pieee of land called Seaton from its proximity to the sea. It may have been bounded on the north by the Don, on the west by the Loch and its burn to its junction with the Powis Burn, and thence by the Powis Burn to the sea. The Chanonry itself was bounded on the south by Cluny Wynd and Don Street, on the east by the east ends of the Chaplain's court and the Bishop's garden, on the north by the steep bank on the south side of the haugh by the river side, and on the west by the road along the west end of the prebendaries' gardens. At first no doubt it had been open, but as soon as the affairs of the Cathedral had been got into proper order it had been enclosed by a high wall, to prevent intercourse with the world outside and to enable the Bishop and Chapter to maintain striet discipline among the ecclesiastics. The Chanonry had four openings furnished with ports or gates. One was at the west end of Chanonry street and another at the east. The haugh at the river side belonged to the Bishop, and access was got by a gate in the north side of his court. On the road to the west there was a gate called the Market or Tillydron port. There was also a port near the east end of a road along the steep bank above the Bishop's haugh. The west part of the haugh was called Bogforth, which means eattle-fold at a bog or wet place. Tillydron means a little hill on a ridge.

After the Reformation the revenues of the Cathedral and the prebendaries ceased, but property within the Chanonry was not at once annexed to the Crown, and the prebendaries were allowed for a few years to remain in

their manses unmolested, though they ceased to officiate in the Cathedral. The chaplains were allowed to retain their court till they died out, though Alexander Hay—to whom their ground had been granted—was anxious to get them away. The “Register of the Great Seal” shows that after the Act of Parliament annexing Cathedral dwellings and grounds to the Crown had been passed the prebendaries’ gardens were rapidly disposed of, especially between 1574 and 1585, and they changed owners frequently. In Orem’s time the manse of Belhelvie was occupied by the Duke of Gordon, who enclosed the ground with a great wall of brick; but in 1771 Taylor’s Map shows the east of the Chanonry nearly clear of houses except along Don Street, and it then belonged to the Hon. Charles Boyd.

THE BISHOP AND CANONS.

Without attempting to assign an exact date for the appointment of the first bishop of Aberdon we may reasonably believe that the two neighbouring dioceses of Aberdon and Moray had been defined and instituted within the reign of Alexander I. (1107-1124).

Nectan, the first bishop on record, is mentioned in a charter of William the Lion (Registrum, I. 72), which shows that he was bishop in the the reign of David I. This was confirmed by the discovery in 1860 of the “Book of Deer” in University Library, Cambridge, which proved that Nectan was bishop in 1131-2.

THE MONASTERIES OF TURRIFF AND DEER.

This book shows also that there were then in existence in Aberdeenshire two monasteries which had been established before the bishopric and were independent of the bishop. These were the Abbey of Turriff and a religious house, most likely also an abbey, at Deer. Two Celtic saints, Congan and Drostan, have long been associated with Turriff and Deer, which makes for a Columban origin for these two early monasteries. Deer, however, appears to have been refounded or remodelled at some after-time, perhaps in the reign of Malcolm III., under the influence of Queen Margaret, for in the later documents in the “Book of Deer” Peter is associated with Drostan. Before the discovery of the book there was at

Turriff a belief that there had been a monastery there. In the Foundation Charter of the Hospital of Turriff (1272-3) the words "viam monachorum," the monks' road, occur, and in the book we have the names of two officials, Demongart the ferleginn, that is the reader or lecturer, and Cormac the abbot. No officials of the Deer Monastery are named. Both monasteries must have had burying grounds of their own and, as no trace of their remains exists now, we may infer that a time came when the monasteries were converted into churches and brought under the rule of the bishop, probably before the close of the reign of David I. Most of the sculptured stones of the north-east of Scotland bear emblems indicating that they mark the graves of ecclesiastics. There are fragments bearing the well-known symbols in the walls of the manse offices and the church-yard at Turriff, and a complete stone was found under the bridge on its renovation in the end of the last century. A sculptured stone at Deer was broken up and built into the walls of the abbey garden about the middle of the last century. These stones bespeak an early origin for the Monasteries at Turriff and Deer. The name Turriff is Turbruad in the "Book of Deer," which might come from the Gaelic words "torr," a steep flat-topped knoll; "bru," bank; and "aod," brae, meaning a level bank on the top of a steep brae, which is appropriate to the church. Deer might be the Gaelic word "doire," wood. Nectan died before the end of David's reign, 1153.

BISHOPS EDWARD AND MATTHEW.

The next bishop, Edward, is mentioned in the Register of Dunfermleyn. "Edwardo epo de Aberdon," Edward, Bishop of Aberdon, occurs twice, and we see that he was a witness to one charter in the reign of David and to another in Malcolm's reign. He is the bishop to whom the forged bull of Adrian IV. was said to be addressed. He is mentioned in the same charter of William the Lion as Nectan was mentioned in, dated 1170, and he seems to have died in this year for the next bishop, Matthew Kininmond, is mentioned in a charter of the fifth year of William.

Matthew is commemorated by St Peter's Hospital, which he founded for priests no longer fit for the trying service of the Cathedral. In 1170 King William gave him and his successors his whole lands of Brass with the natives

thereof, and the forest of Brass. Brass, the old name for Birse, is the Gaelic "braigh," a hill, with s, the English plural, and it means hill. The term "natives" means the dwellers on the land, who were serfs, "adstricti glebae," bound to the land on which they were born.

The forest of Brass is the basin of the Feugh above Percy, and long ago it was mostly devoted to deer and game. Trees are not necessary to constitute a place a forest, but there were evidently trees of different kinds in the forest of Birse. Besides annual rents of such customary kinds as oats, meal, barley, malt, wedders, swine, ducks, capons, hens and butter, the tenants of the forest had to supply and to convey to the cathedral six score and twelve (horseback) loads of dry firewood, which must have been of fir; four dozen plates, four dozen dishes, four dozen saucers, eight chargers, and four great basins, all of birch or alder, and four bolls of gall nuts, which grow on the oak. The saucers were not for teacups, but for the salt liquor in which beef had been boiled, in which morsels of food were dipped when eating; the chargers were trenchers or carving plates, and the basins had been bassies for holding meal when baking, or caps for the use of the occupants of the chaplainry, who lived in common. The gall nuts were not the fruit of the oak but excrescences called oak apples, which grow on leaves and twigs of oaks where insects have inserted eggs. They are used to make ink and they were also formerly in general use in dyeing black. If not all required in the Chanony the gall nuts would have found a ready sale.

The Castle of Birse had been built as a residence for a forester to protect the deer of the forest from poachers, and the flocks and the herds of the husbandmen from Highland thieves, and also to keep the tenants themselves in order. The bishops may have made the castle an occasional residence for hunting and fishing, which some of them seem to have been fond of. A deer's horns formed a hat rack in the lobby of the palace, and the fishing in the Fengh was reserved for the bishop's use. At Easter Clune, in Birse but outside the forest, the bishops had a summer residence, where there were also a chapel and a burying ground. Clune comes from a Gaelic word "cluain," an alluvial meadow, which also gives us Cluny.

After the death of Bishop Matthew in 1199 came Adam and John, and then Matthew Scott, who was elected but resigned soon after and was not consecrated.

In 1228 Gilbert was elected. Boece says that the wicked

Highlanders of the forests of Bras and Cloveth had for some years before his time ceased to pay their rents to the Cathedral and defied the law, but Bishop Gilbert brought them into obedience to the pontifical authority.

Bishop Ralph got in 1241 from Alexander III. a fresh grant of the forests of Birse and Fetternear, and a Royal edict that no one should hunt or cut wood there without leave, under a penalty of ten pounds.

He was an ascetic, and living at little expense he granted the Chapter remission for himself and his successors of certain episcopal dues accruing by diocesan law to the bishops from churches whose revenues went to the Common Good. The deed of remission is signed by eleven canons, of whom four held the offices of dean, chantor, treasurer, and chancellor.

THE CANONS.

The bishop was the nominal head of the Cathedral: but as he was often absent on dioecesan duties and sometimes held high office in the State, such as King's Chancellor, it was impossible for him to take the rule in his own Cathedral.

Circumstances therefore led to the dean's becoming the real ruler and disciplinarian of the Chapter. For this reason, perhaps, he was elected by the Chapter, as was the bishop, but all the other officials were appointed by the bishop alone. The style of the dean was "Decanus Aberdonensis." Cosmo Innes and Dr Joseph Robertson were led to think that there was a dean of Seton, by mistaking the meaning of the words "deecimas garbales sui deeanatus de Setone," occurring in "Fasti Aberdonenses," 30, which they took to mean the teind sheaves of his deanery of Seton, instead of the teind sheaves of his deanery from Seton ("Fasti," 690: and "Antiquities of the Shires of Aberdeen and Banff," III. 161).

The chantor had charge of the choir and the musical service in the Cathedral. Latterly his duties were delegated to the sub-chantor, who had under him the music master, the teacher of the Sang School.

The treasurer looked after not the money but the valuables of the Cathedral:—the jewels, gold and silver vessels and ornaments, reliques, official robes, combs, shears, and mirrors.

The chancellor was the literary man of the Cathedral and the librarian. He wrote the official letters and

the charters, taught the young priests, and lectured on theology. He preached himself and obtained sermons from other canons.

Another high dignitary was the archdeacon, whose duties led him to perambulate the diocese, and he was seldom at the Cathedral.

IRREGULAR ATTENDANCE.

Instead of residence in the Chanonry being regarded as a pleasure, the great object of the canons seems to have been to shirk service in the Cathedral and to be as much away from it as possible. The bishop, in many cases, was only an occasional visitor coming to preside in the Chapter. The dean was bound to reside at the Cathedral more than half a year; but the chantor, treasurer, and chancellor got off with half a year's residence, which did not need to be continuous.

The minor canons came and went pretty much at their own pleasure, sometimes neglecting to appoint a procurator to act for them and pay the wages of their chaplains, deacons, and choristers, who then struck work. No doubt in some cases the revenue of a prebend was inadequate to pay a vicar at the parish church and maintain the canon in residence.

To remedy the irregularity of attendance various expedients were tried. The canons had all prebends or revenues from the churches to which they were appointed, and these had been paid directly to the canons and could not be got at; but the Chapter had a common fund, out of which daily, weekly, and annual payments were made. The daily payments were made only to those present at the Cathedral services, and the weekly to those who signed a book before beginning residence and had been a whole week on end before pay day. To constitute residence it was necessary to dine and sleep in the Chanonry and to be present at least one hour at Cathedral service. There were not, however, manses for all the canons within the Chanonry, and some must either have lived in the chaplainry or have got the dean's permission to live in the town of Aberdeen, and this seems to have been sometimes granted. Then those who had not been held to have given sufficient residence were fined one-seventh part of their share of the Common Good, which went to the Cathedral building fund. When a new bishop had to be appointed

only those were allowed to participate in the election who had been in residence at least a month before the election and had appointed procurators to be responsible for the salaries of their chaplains and servants.

While Ralph was bishop Duncan Earl of Mar gave to the Cathedral the church of Logie-Mar and an acre of ground beside it to provide for a chaplain to pray for the souls of the ancestors of himself and his wife, and the souls of their heirs, in the church of St Mary, wherein he wished his body to be buried among the venerable bishops already buried there. This may be taken as evidence that before the lapse of a hundred years from the institution of the bishopric a suitable Cathedral church had been erected.

LATER BISHOPS.

Ralph died in 1247 and was succeeded by Peter, who executed a deed, along with Alan the ostiary and justiciar of Scotland, by which the bishop received an annual payment of two shillings instead of the tithes of Skene. The deed was sealed by both parties and then cut in two, each getting a half. From Alexander III. he got confirmation of a grant of second tithes granted to him by the King's father, Alexander II. A body of statutes said to have been executed by him ratifying ordinances of his predecessors Edward, Gilbert, and Ralph is a forgery. Compiling fictitious documents seems to have been a favourite amusement of the monks of the middle ages.

Richard succeeded Peter in 1256. From Alexander III. he got confirmation of all the gifts, freedoms, lands and churches, pensions and second tithes which the Cathedral had hitherto possessed; and he also obtained from the King an understanding regarding the rights to hospitality from the royal manors, to which the bishops were entitled when travelling through the country.

In consequence of some difference of opinion in the Chapter concerning liability for the maintenance of ordinances in the Cathedral it was decreed by the Bishop and Chapter that the church of St Mary and St Machar was a baptismal and parochial church and cathedral. This means that the Cathedral church had to look to itself solely for its support. The dean, holding the revenues of the parish church of St Machar, might have been expected by some of the other canons to uphold divine ordinances, but the Chapter decreed that the parochial insignia and

service must be upheld by the dean and Chapter from the common fund. The words “una ecclesia et cathedralis” simply mean a church and cathedral. In the preface to the Registrum they are rendered one church cathedral. What this should mean is not clear, neither is the rendering given to them in a guide to the Cathedral, which says that the church of St Machar was the “sole cathedral.”

Richard was succeeded by Hugh in 1270. During the vacancy the King had presented to the church of Fordyce one of his own clerics. For interfering with the right of the Cathedral he had to apologise to the dean and Chapter and guarantee that his interference would not militate in future against their right.

Hugh was appointed in 1270. An important event in his episcopate was the establishment of a new religious institution, called the Hospital of Turriff, by Alexander Comyn, Earl of Buchan, 1272-3. The scheme for its working was drawn up with the counsel and approval of the Bishop of Aberdon and other venerable bishops of Scotland. The Earl of Buchan was the wealthiest noble of his time, and he endowed the hospital munificently.

The foundation charter was signed by the King, Alexander III., the earl's brother Fergus, the Earl of Mar, the rectors of Foveran and Slains, and many others. It shows us in what way the highest dignitaries of the Church and State in the thirteenth century thought the honour and glory of God might be best promoted. The hospital was dedicated to God, St Mary, and St Congan, the Celtic patron saint of the old abbey. It accommodated a master, six chaplains, and thirteen poor husbandmen from the lands belonging to the earldom of Buchan. The master was to be presented by the Earl of Buchan and admitted by the Bishop of Aberdon. He appointed the chaplains, and the earl nominated the husbandmen. All assembled daily for service in the church, the master and chaplains wearing the dress of secular canons. All ate and drank at the same table. The master came in place of the rector of Turriff and would have had his private apartments in the hospital; but the chaplains had a common dormitory, as also had the husbandmen.

The Earl of Buchan endowed the hospital with a large extent of land bounded by Putachy Burn, Parcock or Turriff Burn, Knockie Burn to its source, thence by a small stream flowing to the Colp Burn, and by the Colp Burn

to Meikle Colp. Here, turning back westward, the boundary passed the Standing Stones which used to be at the meeting of the two roads west of Meikle Colp. Passing over a little hill it came to the Standing Stone of Balmellie, now removed. It then passed to the Monk's Road, the monks having been the occupants of the ancient abbey. It went along the Monk's Road in a track made by a plough as far as the King's highway from Kineduart to Turriff, which it followed (southward) to the bog or myre out of which Putachy Burn issued. The hospital received also annually two chalders of meal and two of malt from the Earl's Castle of Kineduart. It afterwards received a bit of land from King Robert Bruce to maintain a chaplain to pray for the soul of his brother Nigel, taken by the English at Kildrummy and hanged at Newcastle by Edward I.

The hospital continued in full operation till 1412, when it was suppressed to enrich the Cathedral of Aberdon. A carved stone in the east gable of the old church tells the story of the hospital, from which it had been taken when it was demolished. It shows ten heads. There is no mistaking the six chaplains in two groups of three each, or the master between them. The central figure at the top must by his mitre be the Bishop of Aberdon, and the crowned figures on the right and left, one more masculine than the other, must be the Earl and Countess of Buchan. Probably the hospital stood in its own grounds, on the site of the present manse, the original manse having been in or near the churchyard till the erection of the hospital, and there probably had also been the ancient Abbey of Turriff.

As justiciar of Scotland north of Forth the Earl of Buchan held a Circuit Court at Aberdeen in 1281, which was attended by Bishop Hugh. He died in 1282.

BISHOP HENRY.

Bishop Henry, the successor of Hugh, is frequently named in the public records. He attended a Parliament held at Brigueham in 1289. He signed the treaty which John Baliol made with the King of France; but he afterwards swore fealty to Edward I. at Berwick and did homage at Aberdeen in 1296, and again at Berwick. Along with the Earl of Mar he was appointed a guardian of the county of Aberdeen by Edward I.

In 1299 he attended a Circuit Court held beside the Castle of Aberden by John Comyn, Earl of Buehan, the King's Justiciar. From being the way to the justiciary courts one of the exits from Castle Street got the name of Justiee Street.

In 1309 he was present at a great meeting of the clergy at Dundee, where they declared in favour of Robert, King of Scots, with whom the faithful people of the kingdom said they wished to live and die.

In 1314 with consent of the Chapter he gave the church of Alvah to the abbot and the convent of Cupar-Fife, which had suffered much in the recent wars, taking them bound to provide a vicar at Alvah, and supply him with a croft and manse and pasture for his beasts. They had also to maintain a chaplain in the Cathedral of Aberdon and supply him with a dress to wear in the choir, and they became bound to build a manse for him, to be upheld by him at his own expense. The chaplain, however, was not admitted to the Chapter, and he seems to have lived outside the Chanony. Alvah was formerly spelled Alvath. "Ath" means a ford in Gaelic, and the first part of the name must mean water, for there is a sprinkling of names referring to rivers and beginning with "al" over the whole of Scotland.

The bishop having come under the suspicion of the King the temporalities due to him in the exchequer were arrested, but he must have made his peace with the King for the revenues due to the bishop were restored, with the arrears; but the document stating this seems to be a forgery.

In 1327 the King conferred on the Chapter the patronage and revenues of the church of Rathen, where a vicar was thereafter maintained by the Chapter. Rathen in Gaelic was "rathan," a small circle of stones or of earth.

In 1327 the bishop, probably at the instigation of King Robert, entered into an arrangement intended for the benefit of the Abbey of Kinloss, which had been destroyed in the war with England. The vicarage of Ellon being vacant the bishop bestowed the revenues, though not the patronage of the Church, upon the abbey, taking it bound to maintain a vicar at Ellon and a canon chaplain at the Cathedral, with a stall in the choir and a seat in the Chapter. The deed of agreement was cut into two parts, to one of which the seal of the Chapter was affixed, this half being given to the abbot, and to the other the seal of the abbey was affixed, this half being given to the

chapter. There are islands in the Ythan at Ellon; hence the name, from “eilean,” an island. The manse of the prebendary of Ellon was the seventh from Cluny Wynd.

ALEXANDER KININMOND I.

In 1328 Alexander Kininmond I. succeeded Henry. Boece says that he commenced to build episcopal residences at Mortlach, Aberdeen, Fetternear, and Rayne, and finished those at Aberdeen and Fetternear, which statement may be regarded as merely an embellishment of a somewhat uninteresting record, unless in so far as corroborated by other evidence. Kincardine was made a prebend for a canon by Bishop Alexander in 1330, with consent of Duncan, Earl of Fife, who retained the patronage; but he gave it to the Cathedral after a few years. Kincardine Manse was the fourth from Cluny Wynd. In Alexander's episcopate Christina Bruce, Lady of the Garioch, endowed a chaplainry at Drundurnach in the Garioch, in order that in a chapel to be dedicated to the Virgin Mary prayers should be made in all time for the souls of her brother King Robert, and her husband Sir Andrew Moray. The Chapel of the Garioch became afterwards a parish church, but it still retains its original name.

The next bishop was William de Deyn, who succeeded in 1340. He urged a claim to second titles, and an inquisition was made by order of the King, David II., in a Parliament held at Scone in 1344. After having deliberated on the matter and seen several instruments and inquisitions and the bull attributed to Pope Adrian IV., the inquisitors declared that the Bishop of Aberdon was entitled to second tithes from the Crown.

The King got into trouble again about the Church of Fordyce. In the vacancy caused by the death of Bishop Alexander in 1340 he had given the fruits of the benefice of Fordyce to Sir William Wyseman, thinking that they were commensal, that is set apart for the maintenance of the bishop's table, and that as there was no bishop at the time he was free to dispose of the revenue of the church during the vacancy. The King had been misled by some needy or greedy person on the watch for the infall to the Crown of any income, however small; but the dean and Chapter let him know that the Church of Fordyce had never been commensal but belonged to the Common Good of the Cathedral, and the King had to acknowledge that they were in the right.

PHILORTH AS A PREBEND.

In 1345 Philorth, now Fraserburgh, was erected into a prebend for a canon in the Cathedral with a perpetual vicar for the church and a stallar to serve in the choir of the Cathedral. Philorth seems to mean a burn near which a market had been held, coming from the Gaelic "feill," market, and "oth," a broad burn, with r inserted after o, as in Invernorth and Tap of North.

When the bishopric of Aberdon was established the Crown gave grants of land to endow it, but to a great extent the burden of supporting the bishop and other canons fell upon the country parishes of the diocese. Every canon had a parish church whose revenues he drew, and in which he had to officiate either personally or by a vicar paid from the revenue of the church. When not in residence at the Cathedral the canon had to pay a chaplain to take his duties. In process of time cathedrals and abbeys became rich by annual payments from lands and houses for saying prayers and singing masses for the dead. Prayers were said in the Abbey of Deer for the Duke of Rothesay, for which the abbot got leave to export his wool duty free. At the institution of the Cathedral the Church of St Nicholas had been assigned to the bishop and the Church of St Machar to the dean, both because they were good livings and because these two could usually perform most of the duties of the charges themselves, and save the expense of providing substitutes. After a long time it had come about that the bishop neither officiated in St Nicholas Church himself nor provided a vicar, though he drew the revenues. Recognising that this was illegal Bishop William, with authority from the Chapter, in the year 1345 ordained that there should be a perpetual vicar resident in the parish of St Nicholas, to whom he assigned a salary of ten marks from the revenues of the church.

In 1349 King David made over to the bishop and Chapter the patronage of the church of Philorth, which he had reserved when it was made a prebend. In 1349 also the officers of the bishop were deforced by the tenant of Birness in Ellon. The bishop complained to the King, who ordered the Earl of Ross, his Justiciar in the north, to investigate the matter, which he did personally. He summoned the offender to appear before him at the Standing Stones of Rayne, the usual place for holding

bishops' courts. Rayne was the archdeacon's prebend, and the bishop had a manor and a chapel there.

The accused appeared with prolocutors, who took technical objections but made only a lame defence for him. The Justiciar found him guilty, arrested him, and handed him over to the King's coroner for imprisonment, and consigned into the hands of the King the whole lands in dispute, while the bishop got a sealed copy of the judgment pronounced. Bishop William died in 1350, and according to Boece he was buried in the choir of the Cathedral; but though this statement may be correct there is no evidence that Boece knew anything more about the matter than we do.

John was the next bishop. To remove all doubt about the Church of Fordyce he executed a formal deed admitting that it did not form part of the bishop's private emoluments but belonged to the Chapter and was part of the Common Good.

ALEXANDER KININMOND II.

John died in 1355 and was succeeded by Alexander Kininmond II. In his first year Thomas, Earl of Mar, gave to the Cathedral the church of Invernochty, now called Strathdon, to be a prebend for a canon and to maintain a vicar at Invernochty, but as the income was but slender he afterwards annexed the church of Auchindoir to the prebend. Invernochty probably means the infall of the burn of the desolate glen, from Gaelic "inver," infall, and "nochduidh," bare, desolate.

In 1357 David II. was set free from a long captivity in England, Scotland undertaking to pay an enormous ransom for her king. With the other bishops Alexander became bound for the payment of two-thirds of the whole ransom, £100,000, equal to £1,200,000 now. In 1362 the King visited Aberdeen and granted the bishop and Chapter his park (probably for deer) of Galchull in Banff, to support a chaplain in the Cathedral who should pray for the souls of the King, his predecessors, and successors. The name Galchull means white hill, being a compound of the Gaelic "geal," white, and "coill," hill. It may be represented by Gelliehill or some of the places called Whitehill.

In 1362 the King, considering the poverty of the dean and resident canons, caused, as he said, by the war, but

rather by paying his ransom, gave to the Chapter the church of Logie-Buchan with the patronage thereof, on condition that they maintained a vicar at Logie-Buchan and a chaplain in the Cathedral. Logie comes from Gaelic, "lagan," a little howe.

The Chapter, in consideration of their poverty and the ruin of their Cathedral by the war, got also from the King in 1362 the patronage of the Church of Philorth which he had hitherto reserved, on condition of maintaining a vicar at Philorth and giving him a manse and garden, and maintaining two chaplains in the Cathedral. In the same year they got from Thomas, Earl of Mar, the patronage of the Church of Kildrummy, for which, as usual, they had to provide a chaplain to say prayers in the Cathedral besides maintaining a vicar at Kildrummy. But, to relieve the poverty of the Chapter to some extent, the bishop united the churches of Cloveth and Kildrummy, which had often been devastated by war. This saved the Chapter the salary of one vicar, because both churches were on the common fund of the Cathedral. David II. had taken possession of Kildrummy, Mar's chief castle, in 1361, and he retained it three years. Both Cloveth and Kildrummy, being near the castle, were likely to suffer in the quarrel between the King and the earl.

Aberden was burned by the English in 1335. Rents could not be paid, and the people left the town. The country generally had suffered greatly in the ferocious war between David II. and Edward III., and the ransom demanded from Scotland for her captive King was a grievous burden on the country. It was not fully paid till eleven years after David's death.

About this time a pose of silver coins had been hidden in the ground in the University Press Court, Upperkirk-gate, which afterwards came to light again, May 31, 1886.

ALEXANDER KININMOND II.

In 1362-4 the bishop in his letters to churches speaks repeatedly of the dean and the resident canons being in poverty and exhausted, and of the Cathedral and other churches being wasted and destroyed by the ravages of war. We get an inkling, however, of another cause of the impoverishment of the Cathedral in a notice of a safe permit given by the King of England to Bishop Alexander in 1363 to visit the tomb of Thomas A'Becket at Canterbury. The

whole of Christendom seemed to have gone mad with a craze for visiting A'Becket's tomb. For this the Pope was much to blame. Plenary indulgence was offered to all who should visit his shrine at the jubilees of his canonisation. The worship of God entirely ceased in many places; even the Virgin Mary was left unhonoured; and A'Becket was exalted into their place. The Cathedral was dedicated to Mary; but Mary was out of fashion and no offerings were laid on her altar, while the altar of St Thomas, "the holy, blissful martyr," blazed with candles that had been vowed to him by people when they were sick. From what we find in documents written on behalf of the Pope and the bishop it is clear that the Cathedral was in a bad way in the reign of David II. The Pope says he had heard that through old age the nave of the Cathedral church was utterly destroyed. What with war and the burning of Aberdeen, the King's ransom, the worship of Thomas A'Becket, and the ravages of time, the Cathedral had become ruinous and deserted, and the whole institution was in imminent danger of dying out. To prevent this Bishop Alexander set himself to rebuild the Cathedral.

REBUILDING THE CATHEDRAL.

There was no legal provision for erecting new churches till after the Reformation, and the bishops and canons knew that they had to look very much to themselves if they wished to save their institution from ruin. After due consideration the bishop agreed to surrender revenues of his office amounting, it is estimated by Dr Joseph Robertson, to £120 sterling per annum, and the canons agreed to give jointly £60 for ten years, thus binding themselves to the sustentation, continuuation, and perfecting of the building. The terms of the bonds look as if work had already been going on. As the purchasing power of money in 1366 was twelve times as great as now, the master of the work had at command a sum equal to at least £2000 of our money.

We next hear of the Cathedral in 1379, by which date the ten years had expired. We wish to know how much had been accomplished in thirteen years with, say, £25,000, supposing that the bishop and canons had continued to give liberally to the rebuilding of the Cathedral.

Architects are not at one as to the episcopates in which the different parts of the Cathedral were erected. They have trusted to Hector Boece's statements in his "Bishop's

of Aberdon," and to Dunbar's "Epistolare," written in 1527. To get at the true history of the restoration of the Cathedral we must jettison everything stated in these books before 1506, the date at which Boece probably came to Aberdon. He is not to be trusted unless in what came under his own observation, for he was both credulous, and unscrupulous in inventing "facts." The "Epistolare" is based upon the "Bishops" and has all Boece's mistakes, besides some of its own. The two are a good example of the blind leading the blind.

Looking to the present state of the Cathedral we cannot expect architecture to tell much. We shall discover more by attending to the state of the old Cathedral in 1379, the plan of the new building, what parts of it were essential and must be first done, and what could be postponed for a time.

The Bishop and Chapter had been at work a long time; they had spent a large sum of money; and still the Cathedral was not finished, so they applied to the Pope, Clemens VII., for help. In 1379 he issued a letter to all the faithful, in which he said that he had heard that the part of the church of Aberdon called the nave was utterly destroyed through old age (*Registrum*, I. 131). Probably the feet of the couples had spread out, and this had pushed the walls off the perpendicular and brought down the roof. Repair had been impossible, and the nave had to be rebuilt; but the choir may have been narrower or not so old, and it seems to have been used for public worship after the nave was ruinous. This made it possible to postpone everything till the nave had been restored.

THE EDIFICE.

The nave is the main body of the church. It certainly is so called from some resemblance to a ship, the Latin for which is "navis." Skeat says that Christ's church is figuratively likened to a ship. Others see a physical likeness between a church and a ship. We find these parts of the nave and its accessories separately mentioned:—the nave proper, the west end with two towers and the chief window, the spires, the aisles, the roof, the ceiling, and the glazing of the windows. There is no difficulty about the spires; both bear the shield of Bishop Dunbar, and the heraldic ceiling is undoubtedly his also. In Dunbar's "Epistolare" the glazing is said to have been done in 1480.

Probably the cathedral of Antwerp, where this book was written, had been glazed then; but the Lord High Treasurer's Accounts show that this is at least five-and-twenty years too early for Aberdon Cathedral. The roof, Cosmo Innes says, was of stone; but the unbuttressed walls of the nave could not have carried a vaulted stone roof such as that of Milan Cathedral. Probably Innes mistook the meaning of "templum lapide texti decoravit" in the "Epistolare," which means he (Ingram) adorned the church with stone in a web-like texture. This would apply to a covering of thin Tarin slabs put on like slates. If the roof had been of stone it would have remained till now unless it had damaged the walls, of which there is no indication.

As to the aisles, very likely they had been left till after the walls of the nave with their arches had been built and roof had been put on; but the nave would have been useless with the arches open and too dark if they had been filled up with masonry. Both aisles must have been treated as essential parts of the nave and completed immediately after it was roofed. One of these aisles is mentioned in 1499 (Registrum, I. 345). "Acta in insula beati Mauricii in ecclesia cathedrali Abirdonensi," meaning:—These things were done in the aisle of St Maurice in the Cathedral Church of Aberdon. Aisle was often spelled isle, which of course became "insula" in Latin. Maurice is a form of Machorius, the patron saint of the parish. These deductions being made, there remained for Bishop Alexander, as his life's work, the west end with the two towers and great window, the nave with its roof, and the two aisles with their roofs.

The material for building the Cathedral was not ill to find. Granite was not quarried near Aberdon or Aberdeen then, but the surface of the ground was thickly strewn with glacial stones and boulders. The old Cathedral and the manses had been built with these, and the Ordnance Survey Map shows that in 1865 there were many still near the Cathedral. Most of these had come from the granite area above Woodside. The modern way of splitting granite blocks with wedges, and dressing them with chisel and mallet was introduced from America only in the first half of last century, but from long exposure to atmospheric influences the granite boulders had not been ill to dress with a heavy pick. The granite used in building the Cathedral was by no means the obdurate stone Dr Joseph Robertson supposed it to be. The workmen,

too, were not finical. The courses of the pillars of the arches of the nave were made to vary in thickness to save labour in dressing the stones. The voussoirs of the arches are of different breadths, and some arches have a key-stone ending in a sharp edge, while others have at the top two stones with their faces in apposition. Looking at the soffits of the arches we see that some of the voussoirs are thick enough to breadth the whole soffit, but others are only half the thickness of the arch and two are required. In modern mason-work care would be taken to have a thick voussoir between two pairs of thin, but this had not been thought necessary in the Cathedral.

THE WEST END AND TOWERS.

The first part of the new cathedral church to be built had been the west end, with its two towers and its seven uniform, narrow lights. Pope Clement's letter, already mentioned, says the bishop and canons had begun the restoration of the Cathedral "opere valde sumptuoso," with very sumptuous work. This must refer to the west end. The west window of a cathedral is usually a weak place, but the architect of Aberdeen Cathedral relieved the window of superincumbent weight. The seven slender sister lights are much admired. Perhaps they had been made narrow because, the Cathedral standing on the brink of a high bank, the window was exposed to the blast of the stormy north-west, and it was not glazed.

On reaching the top of the towers sheets of lead had been laid on the unfinished masonry to exclude rain, and the building of the spires could then be postponed till other more urgent work could be done.

In his letter Pope Clement urged the faithful to contribute to the restoration of the Cathedral and promised a relaxation of a hundred days from penitential observances which might have been enjoined upon them if they stretched out a helping hand at the work. This phrase is usually taken in a figurative sense, but here the literal meaning of the words is not excluded but rather implied, and it is exceedingly likely that much work in conveying building material and in actual manual construction had been done by the ecclesiastics themselves and the tenants of the lands held from the bishop, and perhaps also by benevolent citizens in Aberdeen and farmers in the county. An architect has pointed out that the buttresses of the

aisles of the Cathedral do not correspond with the piers of the arches in the walls of the nave. It has been inferred from this that it had been intended to put a vaulted stone roof on the nave, and that the lower parts of flying buttresses to support it had been formed simultaneously with the erection of the walls of the nave. Subsequently the vaulted roof had been given up and a wooden roof had been adopted. This rendered it unnecessary to proceed with the flying buttresses and they had been converted into ordinary buttresses to support the walls of the aisles.

The copy of the Pope's letter which has been mentioned is followed by another, dated at the same place and on the same day. It is an expansion of the first, and a manifest forgery. It extends the hundred days of the true letter to a hundred and forty.

METHLICK, DALMAYOK AND TULLYNESSE.

In 1362, according to the "Epistolare," Methlick became a prebend for a canon. The manse was the third from Cluny Wynd. Methlick comes from an old Gaelic word "mead" or "meud," great, and "lice," flat stones. These are near the Ythan, above the bridge.

Dalmayok, again following the "Epistolare," became a prebend in 1368. The manse had been outside the Chanonry as its site is never mentioned and there was not room for more manses within the Chanonry. The name means the field in the howe, coming from the Gaelic words "dail," a field; "na" of the; and "eoch," a howe. In later years the name has been changed to Drumoak.

Tullynessle became a prebend in 1376. There was not room for a manse and garden within the Chanonry, but a manse was set down on the west side of the churchyard, with a garden on the brae behind. The name means a knoll in a glen or a hollow. In Gaelic "tulach" means a knoll; "na" is of the; and "iseil" is the genitive of "iseal" a hollow means jollity, merriment. These two last prebends had to some extent eased the contributions to the building fund promised by those already on the roll.

In the last year of Alexander's episcopate John Barbour, archdeacon of the diocese and author of "The Bruce," got from Robert II. a pension of 20s per annum, payable by the burgh of Aberdeen out of rents due to the Crown. This pension he made over to the Chapter to be distributed

annually to those who attended and took part in a mass for his own soul and the souls of his parents.

EPISCOPAL COURTS.

At the north-west corner of the Chanonry there is a small hill called Tillydron, which means the knoll on the ridge, from Gaelic “*tulach*,” a knoll, and “*dronn*,” a ridge or back between two hollows. Such knolls were often selected as places for holding courts. On or near this knoll a chapel had been built and dedicated to St Thomas A'Becket, the martyr. One motive for erecting a chapel there had been to give the people of the neighbourhood an opportunity of paying vows made to him in distress nearer their homes than at Arbroath or Canterbury, the chief shrines where he was worshipped in Scotland and England.

At this chapel the bishop held a court in 1382, to which those who occupied cathedral lands were summoned to show their charters. Some did not appear, and some came but did not bring their charters. Objection was taken to some charters on the ground that they had been granted by a bishop beyond the term of his own life, without the approbation of the majority of the Chapter, and without manifest benefit to the Cathedral.

The bishop having complained to the King that the Macintoshes had invaded the church lands of Brass and so terrified the inhabitants that they could not stay in their homes, the King, and also his eldest son John, afterwards Robert III., ordered Alexander Stewart, Lord of Badenoch, to take proceedings against the chief if he got any complaint against him from the bishop.

In 1382 in the chapel of the bishop's manor of Rayne, appeared before the bishop and others the baillie of the lands of Formartine with all the tenants, praying to be absolved from excommunication pronounced against them for withholding second tithes for three terms past. Professing penitence and promising to do their duty in future they were absolved with a penitential psalm; though they were told that for taking the eucharist unworthily they ought to have come bare-footed and bare-headed, without girdles on their waists, to the Cathedral at Aberdon on a feast day, every one carrying a wax candle in his hand and laying it down there. Of fifty-seven in Fyvie and Tarves only about one-third had two names; the others are designated by their fathers' name or their own residence. Formartine

was a thanage, and the bishop was entitled to a tenth of the rents paid by the tenants of the King's thane, and these they ought to have held back and paid over to the bishop himself.

Bishop Alexander did not live to see the completion of the great work which he had begun. He was succeeded in 1380 by Adam Tyningham, who held office till 1389.

BISHOP GILBERT.

Adam was succeeded by Gilbert the Second (1389-1422), who in virtue of his office sat in Parliament at Scone in 1390. During the greater part of his episcopate he held the high office of Chancellor of Scotland, which kept him much away from the Cathedral.

EXTINCTION OF TURRIFF HOSPITAL.

In 1412, with the consent of John Stewart, Earl of Buchan the patron, the church of Turriff with all its revenues and fruits was made a prebend in the Cathedral for William Lang the rector of the parish. For several years before he had been a canon without a prebend and manse, though latterly he had had a manse on the south side of the Methlick ground. Turriff was to be served by a perpetual vicar resident at his parish church. The canon took on himself all the ordinary and extraordinary duties incumbent on the rector of Turriff. This means that the Hospital of Turriff now ceased to exist, but that the canon would pray for the King and his predecessors and successors, which the master had been bound to do. The Comyn line of Earls of Buchan had been extinct more than a hundred years, but the earldom of Buchan had recently been revived in the person of John Stewart, one of the King's sons.

Parsi, now Percy, in the lordship of Birse having become waste and uninhabited was set by the bishop for ten years to a tenant at twelve pence Scots for six years and two shillings for the other four. At the end of the ten the tenant was bound to have the "town" sufficiently built. If Birse Castle had not then been built Percy would have served for an occasional residence for the bishop. Anciently a hamlet consisted of a ring of houses round the common cattle fold. Percy, however, means a straight row of houses.

COMPLETION OF THE NAVE.

During the episcopates of Adam and Gilbert, which extended over forty years, the restoration of the Cathedral had been going on, though there is no mention of it in the records of the bishopric or elsewhere. But before Henry Lichtoun succeeded the nave of the Cathedral had been completed.

If building the roof of the former Cathedral had brought down the walls of the nave care had been taken in the new to construct the roof of the best materials, well put together. The south wall shows marks of brackets under the eaves for a foot walk. As the windows were not glazed, wooden shutters had been provided for closing the lights at night and in bad weather. To facilitate the closing of the shutters in the clerestory there is a passage along the thickness of the side walls, along which the sacrist could pass.

BISHOP LICHTOUN.

In 1422, Bishop Gilbert died and Henry Lichtoun, Bishop of Moray, was chosen to succeed him. He had been chosen Bishop of Moray by his fellow-canons after making an agreement that whoever was chosen must contribute annually a third part of his income to the restoration of Elgin Cathedral, which shows that he was accounted wealthy and generous. These qualities had influenced the canons of Aberdeen when they required to select a new bishop, and he did not disappoint their expectations.

In 1424 Alan of Futhas (now Fiddes), Master of Arts and canon of Ross and Moray, founded a chaplaincy at the altar of St Mary in the south choir of the Cathedral. This shows that the choir of the Cathedral had not been so ruinous as the nave, and that public worship had been carried on in it while the nave was rebuilding. The charter was signed at Aberdeen and witnessed by Henry, Bishop of Aberdeen; Gilbert Menzies, Provost of Aberdeen; Alexander Stewart, Earl of Mar and King's lieutenant; the Sheriff of Aberdeen; Lord Forbes and others, which shows that influential men took an interest in the cathedral.

At the request of the Earl of Mar and Alexander, Lord Gordon, the bishop prolonged a lease of the barony of Murthill to Thomas Chalmers, a burgess of Aberdeen,

who had contributed a sum of money to the rebuilding of the cathedral. He abolished the Hospital of St Peter founded by Bishop Matthew, and with part of the revenues he endowed two chaplainries in the cathedral. The other part he took back to his own table and private use, from which the whole had been originally alienated in an irregular manner. The remodelling of the foundation served the double purpose of remedying an abuse and enabling the bishop to do more for the restoration of the cathedral. In 1428, the bishop set to John Clark the lands of Tyrpressy in life rent, one of the terms in the lease being that he should build a house fit to receive the bishop one night in the year and that he should plant trees in the garden.

CANONS' MANSES.

The prebendary of Invernochty had been accommodated with a chamber between the churchyard and the bishop's palace, with only an inconvenient entrance from the north. He now got a site for a manse on the south side of the Turriff Manse, on a bit of ground where the bishop had a brewery, not within the Chanonry, but the bishop now agreed to take it in. The Invernochty Mause was the nearest to the Wynd leading to the loch. On the north the Chanonry did not extend beyond the road to Tillydron. In 1440 the bishop gave to Gilbert Johnston the piece of land on the north side of the road extending as far west as the wooden cross called the Girthercross. On the north it extended to the green walk going down to St Mary's Well and the Don. This ground was outside the Chanonry.

A COMMON ALE-HOUSE.

For the convenience of the residents inside and outside the Chanonry Bishop Lichtoun built a large house to be a common ale-house, with other houses connected with it, one of which was a smiddy. It had ground extending from the Chanonry to Don Street, and it was bounded on the north by the Forbes Manse and on the south by the point on which stood the manse of the chaplains of St Katharine's Chapel. This site afterwards became the Philorth Manse and garden. The canons had cows, but no doubt at a certain season of the year they were scarce

of milk, and then ale was used as a substitute ; but it was also taken as a beverage all the year round. The ale-house was set up by the bishop, and wishing to have some benefit to his soul from it he burdened the house and croft with an annual sum of 13s 4d for a mass on the anniversaries of his death, to be paid to the canons, vicars, and chaplains who should attend the mass.

BISHOP LICHTOUN'S TOME.

Bishop Lichtoun died in 1440, and he was buried in St John's aisle, which was in the north end of the north transept. In the wall above his grave a tomb was erected in which there was a stone with an inscription to his memory, but where the stone was there is now an unsightly void. Though the heritors of a parish may prevent the erection of tombstones in a parish churchyard, neither they nor the persons who erected them, and much less uninterested strangers, have a right to remove them without the sanction of the Sheriff, who is the legal conservator of the memorials of the dead. If the stone was removed without his sanction blaine will lie with the Procurator-Fiscal till he bring to justice the desecrators of the revered bishop's tomb. The inscription contains the only reliable information we possess regarding the choir of the previous cathedral and the transepts of the new. In Latin it is, with contractions expanded :—

Hic jacet . bone memorie henrici de lythtoun utriusque juris doctor qui ad ecclesie moraviensis regimen olim esset assumptus ubi septennio prefuit demum ad istam translatus fuit. in qua xvij annis rexit . presentisque ecclesie fabricam . ab choro stacoine seorsum vsque ad summitatem parietum plene construxit anno domini millesimo quadringentesimo quadragesimo.

Some of the contraction marks and some mis-spellings show that the inscription had been carved at the quarry, and that the carver had not fully understood it. For “esset” we must read “est”; for “choro,” “chori”; for “stacoine,” “statione.” The carver thought “chori” should be “choro” after “ab.” In the middle ages “tio” became “cio”; and a and œ were at first represented by e with a or o beneath, but these were afterwards reduced to a cedilla or comma and ultimately left out. This accounts for “bone” instead of “bonae,” etc. The English of the inscription is :—

Here lies the revered Henry Lichtoun, LL.D., who was formerly elected bishop of Moray, which office he held for seven years. Afterwards he was translated to this cathedral, in which he ruled eighteen years, and built on the site of the choir this part of the building to the full height of the walls. A.D. 1440.

THE GREAT TOWER AND THE TRANSEPTS.

The part of the Cathedral which Liehtoun built was the bell tower and the transepts where he was buried. We see that the transepts were built on the site of the former choir, which had no transepts, but the choir (or place where the choir sat) was as wide as the present nave, and its aisles were probably as wide as those of the nave. The two old red sandstone pillars on either side of the east window had been in the previous Cathedral, supporting an arch, and there are in the east end of the south aisle remains of an archway between the aisle of the nave and the choir, and there had been another on the north. The communication between the nave and the original choir is seen better from the outside than from the nave. These communications had been left open after the transepts had been built, and we see some granite voussoirs which had been put in by Alexander Kininmond. The only parts of the original Cathedral are those in old red sandstone. At the east end of the nave, on the north side, there remains part of the first arch between the nave and the aisle, which shows two things:—that the arches of the former nave were of old red sandstone and that the width of the new nave was the same as the old; but the new nave is probably longer than the old was.

Before beginning to build the transepts Bishop Lichtoun must have cleared away the old choir and set up four pillars to carry the tower of the steeple. The great pillars we see on either side of the window had served for two. They are 35 feet apart—centre to centre—and this had been the measure of the four sides of the tower. There had been four arches resting on four great pillars to support the tower, all no doubt of old red sandstone from Forfarshire, the new harmonising with the old. All the other parts of the transepts had been of cold-looking, greyish white carboniferous sandstone from the Firth of Forth.

Two reasons might be assigned why Liehtoun did not build the transepts and the steeple tower of granite to be

like the nave. One is that he may have had no choice. All the makeable blocks of granite in the neighbourhood of the cathedral may have been used up in the nave. What were still on the ground may have been large rounded boulders beyond the skill of the builder to split, and to quarry more without gunpowder was impossible.

The other reason is that Bishop Lichtoun, before he came to Aberdeen, had taken part in the restoration of Elgin Cathedral and had seen how easily sandstone could be quarried and dressed. It is likely that four or five hundred years ago stones could have been brought from Fife to Seaton Mains in large boats cheaper than they could have been collected in fields and hauled to the Cathedral on sledges drawn by oxen. To have produced in granite the lantern of the steeple and the transept gable, as shown in photographs of a painting of the Cathedral made before the fall of the great tower, would have been impossible with the appliances at command in the fifteenth century.

Having thrown overboard Boece's "Bishops," and Dunbar's "Epistolare," it is unnecessary to refer to the mistakes made by their authors and their followers further than to say that they arose from not seeing that "choro" must be for "chori," and from believing that "stacione" meant foundation, whereas it means site.

BISHOPS INGELRAM AND THOMAS.

Bishop Ingelram succeeded Henry. He took steps to settle all matters in dispute in which the Cathedral was concerned. It was in his time that the march between the bishop's lands and those of the chaplains on the new scheme for St Peter's Hospital was settled. The marches of lands belonging to the Cathedral were perambulated and marked, and charters were granted. It had been the custom for a while to appropriate for the building fund all legacies and oblations to the church; but the new bishop having found that they belonged to the Chapter he decreed that they should go to the common good.

In 1451 at the request of the bishop and the citizens of the burgh of Aberdeen Pope Nicholas granted a general permission to take salmon on Sunday in the five months of the year in which the fishing was carried on, because the

same permission had previously been granted by canon and civil law in regard to herrings when they came inshore. In *Registrum* (II. 65) Rathven is given in "Faculty of the Church of Aberdon" as a prebend in 1437. In "Epistolare" (p. 253) the date of admission to the roll is 1445. Neither of the documents is reliable and both dates may be wrong.

Bishop Thomas Spens (1459-1480) took an important part in the public affairs of Scotland. In 1473 a commission appointed by Bishop Thomas erected the chapel of St Peter in Glenbucket, which was a detached part of Logie-Coldstone, into a mother or parish church. Five or six persons had perished going from Glenbucket at Pasch to their parish church at Logie. The Don had to be crossed and the fords were dangerous. Glenbucket means the glen of the hump, the hill now covered by the Craig Wood being the hump, which in Irish and old Gaelic is "buicead." In the local pronunciation of Glenbucket the sound of "i" is prominent.

UNDERGROUND HOUSES.

In Strathdon there were till recently many irregular boundaries and detached parts of parishes, which had originated in peat-mosses and summer pastures among the hills, provided by proprietors for their low country tenants; and as they were inhabited only in summer they had been counted to belong to the same parishes as their summer occupants. In Strathdon there are underground dwellings which may well have served for summer quarters and dairies for women in charge of cows sent to the hills. There are also at Invernochty, Glenkindie, and Fichlie remains of great penfolds, once provided with surrounding walls, where the cattle of a district were folded and guarded against thieves, by common herds at night.

Bishop Thomas died in Edinburgh in 1480 and was interred with solemnity in Trinity Church. The King, six bishops, and many nobles attended the funeral. From what took place after his death, he evidently had not neglected the restoration of the Cathedral. During his episcopate the transepts had been roofed, and some progress had been made in building the new choir.

BISHOP BLACADER.

The next bishop was Robert Blacader, a canon of the Cathedral of Glasgow.

The Bishop of Aberdeen was in virtue of his office parish priest of St Nicholas, and he drew the income of the church though he did no duty in it personally. In the incumbency of his predecessor, Bishop Thomas Spens, the choir of St Nicholas Church had begun to be rebuilt and the bishop had given his second tithes to help with the work, but Robert Blacader refused to do likewise. The Town Council resented the bishop's want of sympathy and passed a minute dated November, 1481, saying :—

The alderman, counsel, and communitie of the burgh of Abirdene, the communitie gadrit throw the warning of the belman, rypply and weill avisit, with ane consent, nane sayand the contrar, has deliverit and ordint becaus that Robert, elect affirmat of Abirdon, has schavine hymn vnkindly in the restriction of the second tend, quhilk was gevine by his predecessor, Bishop Thomas Spens, to the biging of the quer of Abirdene : the forsaid alderman, etc., hes decretit that nane dwelland within the said burgh sal mak no firmas (pay no rents) to the said Robert, and quhatever he be that does in the contrar of this Act sal tyne his fredom.

The burgesses acted on their resolution ; for when the bishop was translated to the See of Glasgow in 1484 he prosecuted them for debts due to him before his translation. The bishop was entitled to tithes on certain rents due to the Crown, which the burgesses should have retained and paid to him.

BISHOP ELPHINSTONE.

Robert was succeeded by William Elphinstone, the most distinguished of all the bishops of Abberdon. He was born in Glasgow and was the son of William Elphinstone, a canon and the dean of the Faculty of Arts in the University of Glasgow in 1451. William attended the University there, and afterwards studied civil and canon law at the University of Paris. On his return to Scotland he filled the office of Official or Judge of the Archdeaconry Court, first of Glasgow and then of Lothian, an office next in importance to that of Justiciar, who was the highest officer of the Crown. He was chosen Bishop of Ross in 1481, and

as such sat in Parliament. He sat in Parliament also in 1484 as Bishop of Aberdon, and he held various State offices which required his presence in Edinburgh. He was also frequently abroad on embassies in the public service. He was high in the confidence of James IV. and was long Keeper of the Privy Seal. By his influence with the King he got in 1489 a charter erecting the episcopal city of Aberdon into a burgh, but though the style was sometimes used the charter was not put in force, nor was another charter which was granted in 1498 after the King came to full five-and-twenty years of age. The burghal history of Aberdon begins after 1600.

In 1494-5 Bishop Elphinstone obtained from Pope Alexander VI. a bull erecting in the episcopal see a Studium Generale or University with power to confer degrees and appointing the bishop to be the Pope's Chancellor in the University. The Chapter of the Cathedral had been serving the purpose of a University, and, though we hear occasionally of the new University, the teaching of theology, canon and civil law, etc., had been carried on either in the Cathedral or in the manses of the chancellor, treasurer and other canons without change for some years.

Boece says that Elphinstone completed the tower of the cathedral—that is by adding the spire—and covered the whole building with lead. As he had collected all the materials for finishing the choir, begun we know by Bishop Thomas, we must suppose that he completed the choir, externally at least. He had glazed the University buildings as they were erected, and he had not neglected the Cathedral. He twice founded a church in the angle between the west side of College Bounds and Powis Burn, but it did not prosper as he expected.

To Bishop Elphinstone we owe a famous book:—"The Breviary of Aberdon." In 1508 he erected the church lands of Turriff, which lay on the north side of Putachy Burn, into a burgh and sanctioned feuing them at a sixpence Scots per rood, which was confirmed by royal charter in 1511.

It is marvellous that Bishop Elphinstone was able to do so much as he did without inherited wealth; but the numerous high offices which he filled before and after he became Bishop of Aberdon had been remunerative, and Guthrie says that he made a fortune by exporting salmon caught in the fishings which he held as bishop. He died in 1514, soon after Flodden, where he lost his patron, James IV. He had attained the age of 83 or 84, and he

was buried before the altar in St Mary's Chapel in the University which he had founded.

Bishop Gavin Dunbar caused a splendid monument to be erected over his tomb to his memory. His effigy in bronze, gilt, was laid on a black marble slab, with two candelabra at his head, and twelve bronze, gilt figures standing round, which represented the Christian graces and the Cardinal virtues. At the Reformation the tomb was desecrated, and the bronze figures were stolen.

BISHOP ALEXANDER GORDON.

Alexander Gordon, Chantor of Moray, succeeded Elphinstone. He was chosen bishop through the influence of his cousin, the Earl of Huntly, who pointed out to the canons what could be done for Aberdon by the wealth and resources of his friends. The last which Boece told us of Bishop Elphinstone and the cathedral was that he came home a few years before his death to finish the choir, which probably he did. Anything left incomplete at his death we may credit the new bishop with perfecting, as there is no word of work at the choir being done in his successor's time. Bishop Gordon died in 1418.

BISHOP DUNBAR.

Gavin Dunbar, the next bishop, was Archdeacon of St Andrew's at his appointment, and he had previously been Dean of Moray. He took an active part in State affairs, which led to his being imprisoned along with Chancellor Beaton, the cardinal and archbishop. He is commemorated by the heraldic ceiling of the nave of the Cathedral and the erection of the spires on the two towers at the west end of the Cathedral, which completed the restoration. The spires are of old red sandstone, apparently from Kingoodie Quarry, in Perth, a few miles west of Dundee. The quarry, now disused, is on the edge of the Firth of Tay, and stones could have been boated from the quarry to the brae at Seaton Mains. The spire of the old Townhouse of Aberdeen was built of stone from this quarry. It is grey green, slightly tinged with red. A sample may be seen with the sacrist of the cathedral.

Gavin Dunbar is commemorated also by the erection of the Bridge of Dee, completed in or before 1527, according

to the "Epistolare," after seven years' work. Two years later Dunbar made over to the Town Council of Aberdeen the cathedral land of Ardlair in Clatt, for the maintenance of the Bridge of Dee. This they accepted, and they undertook to uphold the bridge and rebuild it when necessary.

In 1531 he founded a hospital for twelve poor men in the north end of the Chanonry, between the manses of Tullynessle and Monymusk. He also built the chaplains' court at the east end of the Chanonry, where twenty or more chaplains lived, having a common table. His initials and arms—three pillows within the royal tressure—are in the wall of a house near the site of the Chaplainry. Bishop Dunbar died in March, 1532, and was buried in the south transept, where his tomb is seen with his initials and arms in one corner, and the royal arms in another, with reference to his holding at his death the State offices of Clerk of the Register and Clerk of the Council. In this capacity he had written the marriage contract of James IV. and Margaret Tudor in 1504.

So far as we have the means of knowing, the Cathedral was completed by Gavin Dunbar. Boece, who might have been trusted to tell correctly what he saw, writes so indefinitely that his statement is of no value; but we may take the completion of the spires and the putting up of the heraldic ceiling as evidence that the more urgent work of finishing the choir had been first done.

COMPLETION OF THE CATHEDRAL.

Begun in 1366 and finished—say at Bishop Dunbar's death in 1531-2, it had been a hundred and sixty-six years in building. This is a short space considering that it was built with voluntary contributions, chiefly from the bishops and canons, though no doubt the nobles of the north and the burgesses of Aberdeen had helped, and at the appeal of the Pope many of the faithful had stretched forth a helping hand.

The Cathedral of Cologne, founded in 1248 by Conrad of Hochstettin, which Sir William Geddes referred to in his poem on Gamrie Church, was not finished till the end of last century. The Cathedral of Milan, founded twenty years after Aberdeen, was not finished till 1805. Except St Paul's and Salisbury most of the English cathedrals were so long in building that the style of architecture

prevalent when they were begun was out of fashion before they were completed.

The east end of the nave occupies the same site as the corresponding part of its predecessor. The lower parts of the great pillars on either side of the modern east window remain as when first built, but the upper parts had been relaid. The lower part of the opening between the south aisle and the original first choir is certainly in its original state, but the upper has been down and up again. The eastmost bay in the north side of the nave is partly old and partly new. The east window in the south aisle is partly red sandstone, partly granite, and partly grey sandstone, which says that Alexander Kininmond found it decayed but fit to be left with a new granite mullion in the centre. The other windows in the south aisle have two mullions; it has only one. By the time the Cathedral had been completed it had been necessary to remove most of the red sandstone facing of the wall around it and replace it with white sandstone. The door into the south transept was in the old choir but had been removed and rebuilt with some new parts.

The chief builders of the new cathedral were Alexander Kininmond II., who built the nave, including the west end and the aisles, though his successors may have had to complete his work; Henry Lichtoun, who built the walls of the transepts and the tower of the steeple, but left the roofing to be done by his successor, Ingelram; Thomas Spens, who probably began the choir and built the greater part of the walls, but it was a great house, 100 feet long, and not completed in his time; William Elphinstone who erected the spire on the great tower, completed the walls of the choir, covered the roof of the whole building with lead, and very likely glazed the windows; lastly, Gavin Dunbar, who built the two spires on the west towers and put up the beautiful ceiling in the nave, completing the restoration.

BISHOP STEWART.

Gavin Dunbar was succeeded by William Stewart, son of Sir Thomas Stewart of Minto. He went on embassies to England and France and took his place in Parliament. Heresy was beginning to trouble the peace of the Church, and Bishop Stewart, along with Cardinal Beaton, sat in judgment at St Andrews upon one accused of maintaining that the Pope had no higher authority than any other

bishop, that his indulgences and pardons were invalid, and that the clergy might lawfully marry.

In 1535 the lands of Glassaugh and Craigmill, in the Lordship of Fordyce, were set for nineteen years at a yearly rent of nine pounds, a chalder of wheat delivered at Aberdon, and a night's lodging, supper, and dinner for the bishop when he went that way. Fearing for the safety of the church jewels and ornaments, when the English invaded Scotland in 1544 to force marriage between the English prince and the Scotch Queen, he was removing the valuables to a place of safety north of the Don when he was set upon by Forbes of Corsinday and robbed of the whole treasure. Redemption had to be paid to the thief before he restored them. The bishop died in 1545, and he was buried in the Cathedral, in the west end of which there is a loose stone carved with his arms, a fess chequy with an engrailed bend across it.

BISHOP WILLIAM GORDON.

The last pre-Reformation bishop was William Gordon, fourth son of Alexander, third Earl of Huntly. The rumblings of the ecclesiastical earthquake which was to overthrow the Catholic Church of Scotland were beginning to be felt, to the alarm of the inhabitants of the Chanony of Aberdon. In 1547 the Chapter admitted a new canon without a prebend, whose duty was to lecture in theology in the Cathedral, to preach once a month to the people, and to go round the churches whose patronages and revenues belonged to the Chapter, and preach against heresy in every one of them once a year. The Chapter thought that, as the bishop was a notorious transgressor of the laws of the Church by having a concubine, it would be worse than useless to send him round the diocese on a mission of reformation. In 1559 on the eve of the Reformation the dean and Chapter sent to the bishop, at his own request, a memorial prescribing what they thought should be done to stanch the heresies now prevalent in the diocese. They knew the root of the evil and plainly told the bishop that he must put in force the laws of the church against all Churchmen in the diocese keeping concubines, not sparing themselves nor their head. Further, stringent orders should be issued to all churchmen of the diocese who were absent from their posts to come home to their churches and the Cathedral, and set about a general reformation. The

bishop himself, however, seems to have been but seldom at the Chanonry, for we hear more of him being in Parliament and on the Continent than at Aberdon.

Seeing the imminent danger the Catholic Church was in the bishops and canons appointed George, Earl of Huntly, Chancellor of Scotland and King's Lieutenant in the north, to be hereditary baillie of all the possessions of the Cathedral, with power to call out when necessary all the tenants in defence of the property of the Cathedral and of the Catholic faith. In that same year the bishop and canons began a general scheme of letting to tenants the Cathedral lands on leases for eighteen years. In 1549 and two following years, seventy leases were executed. Several places in Aberdeenshire had then names ending in aspic, espick, or espock. This termination represents the Gaelic word "easbuig," meaning a bishop.

One of the latest dated documents in the *Registrum* is a charter by William Hay, prebendary of Turriff, whose initials are on the old church there, in which he burdens his manse in the Chanonry with thirty-one shillings annually to the chaplains and vicars of the choir for anniversary services for the souls of James V., his predecessors and successors; and for the souls of Gavin Dunbar, William Stewart, and William Gordon, bishops of Aberdon; and of George then Earl of Erroll, and the late William Earl of Erroll, and the late Thomas Hay (father of Earl George and brother of Earl William), both of whom died sternly fighting in the battle of Flodden; others of the name of Hay who perished with them; and Alexander Hay, late canon of Aberdeen and prebendary of Turriff. This charter shows that the military service by which feudal barons held their lands was sometimes not a light matter.

A convention Parliament met on August 1, 1560, and drew up a Confession of Faith, which was sanctioned August 18. The Parliament abolished the authority of the Pope in Scotland and prohibited the service of mass on the pain of death. This was the Reformation, and religious service according to the Catholic rite was never again performed in the Cathedral, though for several years the Earl of Huntly boasted that if the Queen gave the order he would have mass said again in Aberdeen, Banff, and Moray.

THE BISHOPS AND CANONS AFTER THE REFORMATION.

The Reformation broke out at Perth in May, 1559, after a stirring sermon by John Knox, with the destruction of the monasteries there. In January next year a like fate befell some of the monasteries in Aberdeen at the hands of violent Reformers from Angus and Mearns, assisted by some of the citizens. In March these zealous southrons threatened to attack the Cathedral of Aberdeen; but the salaried, hereditary, perpetual baillie of the Cathedral property, as in duty bound by the terms of his appointment (*Registrum*, II. 307), turned out with his men at the call of the bishop in defence of the Christian faith and protected the Cathedral. In July seven superintendents were sent out over Scotland by the Reformers to organise the new Church, and seven ministers were sent to large towns to use moral suasion and gain adherents for the new faith. One of these, Adam Heriote, formerly a Catholic priest, was sent to Aberdeen.

When the end of the old style of worship came the bishop, canons, and chaplains were left for a year in undisturbed possession of their incomes and residences. The Cathedral seems to have been unharmed till after the Reformation, when, being left unprotected, thieves began to steal lead from the roof. The valuable gold and silver vessels and ornaments and the rich vestments had been committed on restitution to the canons and the baillie, and though they are not heard of again no doubt they had been faithfully delivered up and disposed of for the common good when it had been clearly seen that they could never be used again in the Cathedral.

THE TREATMENT OF CHURCH OFFICIALS.

The bishop and Chapter remained in full possession of the lands which had belonged either to the bishop himself or to the Chapter, and they were not prevented from feuing them in perpetuity or letting them on leases not exceeding 19 years, provided the terms of the feu or lease were fair and not injurious to the benefice. If injurious they could have been afterwards challenged; therefore a feu or lease usually contained a narrative clause giving the

reason for granting it. In 1574, when through deaths or removals the population of the Chanonry had grown sparse, Bishop Gordon feued to John Kennedy, rector of Tullynessle, a bit of ground, assigning as the cause that on account of the devastation of the church and the cessation of divine worship there was no dung for manuring the land. The canons feued from the bishop their manses and gardens and, though before the Reformation they could not have disposed of them to anyone but another canon, they could at their death burden their feu with a sum to be paid annually to chaplains for masses for their souls ; but after the Reformation they feued their manses and gardens, with consent of the Chapter, to outsiders.

In 1562 the Privy Council decided that the Old Church officials should be allowed to retain two-thirds of their incomes for 1561-2 and subsequent years with their residences, during their lives, and that one-third should be appropriated to the New Church ministers and the Crown, which it was thought required to have its interest considered. It is estimated that half of the annual revenue of the land in Scotland was in the possession of the Church at the Reformation. The old possessors had got good terms. They had nothing to do ; they might go abroad or they might live as private citizens at home ; retaining even their titles of bishop, dean, rector, vicar, etc. The only restriction they were liable to was abstinence from mass and other services of the Catholic Church. If they conformed to the Protestant faith they might be allowed to remain in office in their old parishes, with consent of the congregations. The rector of Turriff continued to be minister there after the Reformation.

The terms meted out to the chaplains of the cathedrals were not so favourable as those granted to the priests. Not having had fixed tenures of office, and being on weekly wages before the Reformation, it was not thought necessary to grant them life pensions after it when they had absolutely nothing to do. In Aberdon the chaplains were allowed to occupy their court as long as they lived, but the foundations, or burdens on houses and lands, which had been mortified for soul masses were appropriated by the Crown for hospitals, schools, etc. In 1574 the King gave Alexander Hay 40s yearly from the Manse of Clatt, which its first owner had made a perpetual burden on it for a mass for his soul, and like sums from the Manses of Mortlach, Methlick, Kinikell, Turriff, Invernochty, and

Belhelvie, with the chaplains' place at the end of Chanonry; but, to his great mortification, after spending money to dislodge the chaplains he found that the King had given away what the law had not given to him, so he had to wait till the death of the last chaplain before he got possession of their court. On the death of Mr John Hay, the last prior (a layman) of Monymusk, who had been responsible for the pensions of his clerics, a complaint was made to the Regent and Privy Council by James Murray, "the only levand of the convent of Monymusk," that his pension had been stopped though he was now old and poor and had a family to support. He was allowed £20 Scots during the rest of his life, half his former pension.

TEINDS AND REVENUES OF THE PARISHES.

At the Reformation there were about a thousand parishes in Scotland, the clergy of which had at first resided in their parishes, supported by the teinds or tithes of the annual increase of the land, or produce of animals, or of the sea, or of revenue from any source. Nothing was exempt. We read of victual or greater tithes, comprehending all kinds of grain and pulse, with the fodder; smaller tithes, comprehending hay, flax, hemp, garden fruit, foals, calves, lambs, chickens, fish, butter, milk, cheese, and eggs; personal tithes, comprehending income from trades, crafts, professions—the Bishops of Aberdon had personal tithes from the professors in the university and perhaps also from the canons and from the tradesmen in the town if they thought them worth taking; and second tithes, comprehending tithes of rents and dues from the King's thanages and lands in his own hand, revenue from burghs, and from Crown vassals for ward, relief, marriage, and non-entry, fines at courts, property of suicides, and all manner of Crown income. Tithes from these belonged to the bishops of Aberdon by special grants from the Crown.

It was within the right of the patron of a parish to bestow the patronage of a benefice upon any religious house whose members were qualified to act as parish ministers. This right had been largely exercised by patrons, because they could combine with the patronage the duty of soul masses for the benefactor, his wife, his ancestors and successors. At the Reformation only about 260 of the thousand parishes in Scotland were independent

parsonages. All the rest—and the number was constantly increasing—had been annexed to cathedrals, abbeys, priories, and collegiate churches. These drew the whole of the teinds and other revenues of the parishes and appointed vicars, usually some of their own chaplains, to officiate in the parishes at a small stipend; but the Pope might exercise his right to veto the appointment if he were not satisfied with the provision made for the vicar. Generally the vicar got the small tithes and the altarage and burial service dues. It was much the same with the prebends, but they were not all on the same footing. Sometimes a patron instituted a prebend retaining the right of patronage to himself; sometimes only for every second or third vacancy; and sometimes the bishop and the Chapter instituted the canonicate, assigning to the canon the revenues of one of the churches belonging to the common good of the Chapter. After 1561 if a canon on this footing died another was not appointed in his stead; but two-thirds of the prebend went to the common good, and the Crown continued to receive its third. On the death of a canon whose prebend had been in the gift of a private patron the connection between it and the Cathedral entirely ceased. The patron in some cases did not appoint a successor but kept the revenue of the benefice to himself, paying over one-third to the Crown; in other cases, knowing this to be illegal, patrons appointed as parsons laymen, such as lairds and lawyers, who drew the revenues and paid the Crown thirds, but did none of a parson's duties.

THE FIRST PROTESTANT BISHOP.

The bishop had no religious duties to perform, but he had lost none of his civil rights. He had his seat in Parliament; and he and his Chapter, somewhat curtailed in numbers, granted charters over lands, which the King afterwards confirmed as a matter of course. At the Reformation a great many points had been left unsettled. One was the question of bishops. The superintendents had not given satisfaction. More than half of them had been found fault with by General Assemblies; and many thought that archbishops and bishops were a necessity in the Church, but they were unwilling to let them beyond the absolute control of the General Assembly. The nobles and courtiers were ravening to get hold of the lands and revenues which belonged to the archbishops and

bishops as soon as they died ; but this could not be, unless the country wished to do away with them altogether, because the Church would have no more layman bishops. It was ultimately settled in 1571-2 that the names and titles of archbishops and bishops were to be retained, and that the bounds of the dioceses before the Reformation were to be maintained, and that when any of the old bishops died others should be appointed in their stead ; but that only an ordinary minister's stipend would be given to the new bishops, the rest of the revenues of the office going to the Crown. There were, however, too many eager competitors for these for the facile King to be able to retain them long in his own hands.

In 1571 Bishop William Gordon and some other bishops were forfaulted in Parliament for political causes, but party changes led to his restoration. He died in 1577, the last of the Catholic bishops of Aberdon. He was succeeded by David Cunningham, formerly minister of the parish of Monkland, then sub-dean of Glasgow Cathedral. In 1587 a General Assembly held at Glasgow condemned episcopacy in the Church of Scotland utterly, yet the archbishops and bishops were allowed to retain their empty titles, and David Cunningham was still styled Bishop of Aberdeen. The name Aberdon had ceased to used after 1560.

ANNEXATION OF THE TEMPORALITIES.

When King James reached the age of twenty-one he promulgated an "Act for Annexation of the Temporalities of Benefices to the Crown," which declared that all the land that had once belonged to the Church had originally belonged to the Crown, and this Act took all back again, with certain exceptions. As the land by whomsoever held, had not been paid for but had been given away gratis on military service, which would be no longer required of the holders, no wrong theoretically was done to them ; but it caused great consternation among those who had got possession of Church lands since the Reformation. Some of the exceptions from the provisions of the Act were :—(1) The Abbey lands of Deer, which had been erected immediately before the passing of the Act into a temporal lordship for Robert Keith, now created Lord Altrie. These lands he had held temporarily since the Reformation under the title of Commendator of

Deer. (2) All the teinds of the kingdom; (3) the mansions, yards, etc., of the prelates, and the manses and glebes of four acres belonging to the parsons and vicars of parishes; (4) lands given since 1560 to colleges, hospitals; lay patronage; and all pensions granted out of the lands annexed by the Act. This swept away all the land which had belonged to the bishop and canons of Aberdon. Some of it had already been given to the University. The benefice of Spital, held by the sub-chantor in the Cathedral, had been given in 1574 by King James to the college; and the rectory and vicarage of the parish church of St Machar, which had been the prebend of the dean of the Cathedral, had been surrendered by the last dean, his life interest being secured, in favour of the college in 1579.

ABOLITION OF EPISCOPACY.

In 1592 an Act of Parliament was passed repealing every vestige of episcopal government in the Church of Scotland; but the Bishop of Aberdeen still retained his title, and in August, 1594, Mr David Cunningham, Bishop of Aberdeen, was selected to baptise the first-born son of the King, who was called Henry Frederick. The passing of the Act of 1592 ratifying the liberties of the Presbyterian Church of Scotland and quite abolishing episcopacy had been against the will of the King, and he did not fail to nominate new bishops as the old died out. Before James set out for London in 1603 David Cunningham had died, and Peter Blackburne, rector of St Nicholas Church, was appointed in his stead. Calderwood, the historian of the Church, sarcastically says of him:—"He departed this life about the beginning of July [1615] after he had lyen a long time little better then benummmed. He was more careful of a purse with five hundredth merks in it, which he keepeid in his bosome, then of anything else." But before his death he had become a bishop in more than name.

POST-REFORMATION BISHOPS.

In 1600 the King, with the consent of the Convention of Estates, appointed three of the wisest and best ministers of the Reformed Church to be bishops. They had seats in Parliament, but they were not sanctioned by the Church;

they had no place in its government, and they were subject to the General Assembly like other ministers. One of these was Peter Blackburn, minister of Aberdeen, who had been Moderator of the General Assembly the previous year. He was a Master of Arts and signed the foundation charter of Marischal College as a witness in 1593, and he was a Dean of Faculty in the college in 1598.

The Church had great confidence in him at first, but he soon fell under suspicion of being too obsequious to the King in Church matters. In the Parliament of 1600 he and other three bishops sat representing the Church, but they did not ride in state at the opening. In 1605 thirty ministers met at Aberdeen to hold a General Assembly as had been arranged the previous year. The King's Commissioner at first forbade them to sit. He afterwards allowed them to begin on the understanding that they would adjourn at once, but they insisted on first fixing a day for another meeting. Among the thirty there were from Aberdeen and Kincardine:—John Forbes, Alford, chosen Moderator; William Forbes, Kinbethock (Towie); James Irving, Tough; Robert Youngson, Clatt; Robert Reid, Banchory-Ternan; Charles Farholme, Fraserburgh; William Davidson, Rathen; Archibald Blackburn, Aberdeen; James Ross, Aberdeen; and John Rough, Nigg. For their presumption in holding an Assembly without his distinct authority James wreaked upon them such exemplary vengeance that the other ministers of the Church were afterwards afraid to resist the King in his determination to establish Episcopacy in Scotland. Fourteen were tried for high treason; six were convicted and sentenced to death, which sentence was afterwards changed to perpetual banishment; and the rest were committed to prison, without a day of freedom being fixed. Other ministers were forbidden to pray for them or even name them.

THE RED PARLIAMENT.

Three bishops had, as was said, been appointed by consent of the convention in 1600; John Spotswood was made Archbishop of Glasgow by the King on his way to London in 1603; others had been appointed subsequently as vacancies in the list of the nominal bishops occurred; and in 1606 there were in all twelve of these lawful clerical bishops and archbishops, besides the Bishop of Dunkeld,

a layman who held the office "in commendam," and two nominal clericals who drew the incomes but paid them over to nobles. At the opening of a Parliament held at Perth in July, 1606, ten of the lawful bishops rode in State, two and two, in red silk and velvet dresses provided for them, with mantles for their legs and feet. From the colour of their dress this Parliament got the name of the Red Parliament. Peter Blackburn, Bishop of Aberdeen, was also present and took his seat, but from a humility which some thought meek, others mock, he went on foot in plain clothes. At the instigation of the other bishops the Chancellor, Lord Dunfermline, pulled him out of the Parliament.

By the King's instructions sent from England two anti-Presbyterian Acts were passed. One was titled "Anent the King's Majesty's Prerogative," asserting the Royal supremacy over all estates, persons, and causes whatever, ecclesiastical causes included. The other was titled "Anent the Restitution of the Estate of Bishops." This last Act lamented that the Annexation Act of 1587 had subverted the ancient Scotch Constitution by abolishing bishoprics and thereby removing one of the three estates:—King, Lords, and Church. The Restitution Act remedied this and restored bishops to their full rights, dignities, and estates. Cathedral lands still in the hands of the Crown were given back, and the temporal lordships formed out of cathedral lands were cancelled and restored to the bishops.

The Act did not affect abbey and priory lands. The Abbey of Deer had been held "in commendam," or in a temporary way by a substitute, by Robert Keith as a lay abbot since 1552. In 1587 it was erected into a temporal lordship for him, and he was created Lord Altrie. At his death in 1593 it passed to his nephew, George, Earl Marischal. The Priory of Fyvie had been suppressed by Pope Julius II. in 1508, and its possessions had been united to the Abbey of Arbroath, both being Benedictine monasteries and dedicated to St Thomas A' Becket. Neither of these were affected by the Act; but of the King's grace the Priory of Monymusk, which had been held "in commendam" for the Crown since 1560, was given to the Bishopric of Dunblane because its revenues were small.

APOSTOLIC BISHOPS.

The first bishops nominated by James after the Catholic bishops died or resigned were not recognised by the Church any more than the old Catholic bishops. They were ministers and subject to the discipline of the Church instead of exercising authority over others. The only purpose they served was to bear the titles of the dioceses till it should be seen what would be settled regarding Episcopal superintendence. They drew the revenues of their offices, but had to pay over the whole or the greater part to nobles or courtiers named to them by the King. They were despised, evil spoken of, and persecuted by their brethren, who nicknamed them *tulchans*.

The bishops appointed with the sanction of the Convention were recognised as one of the estates of the realm, and as representing the Church they sat in the Parliament of 1606. The archbishops ranked before the earls, and the bishops, too, would fain have ranked above the earls, but they were forced to be content to follow them. The King, however, had a higher honour in store for them. In 1610 he called to London the Archbishop of Glasgow and the Bishops of Brechin and Galloway to receive consecration from English prelates. Thereby they became apostolically ordained bishops. On their return to Scotland they consecrated their brethren, and made them true bishops with apostolic succession. Peter Blackburn, one of the ministers of St Nicholas and the titular bishop of Aberdeen, was consecrated at Brechin in 1611, and was thus the first real Protestant bishop of Aberdeen. In pre-Reformation time the bishop was rector of St Nicholas or Aberdeen city parish, and the dean was rector of St Machar. When Blackburn was made bishop of the diocese of Aberdeen, he remained a minister of St Nicholas but had nothing to do with St Machar.

Both the Presbyterian and the Episcopal parties in the Church were extremely bigoted; hence a man like Blackburn, who discharged his duties with quietness and moderation, was disliked by both sides. He died June 14, 1616, and was succeeded by Alexander Forbes of the house of Ardmurdo. He was then Bishop of Caithness, and had previously been minister of Fettercairn. He died in 1618, and was succeeded by Patrick Forbes, eldest son of William Forbes of Corse. He was born in 1564 and was educated for the ministry, first at Glasgow University

and afterwards at St Andrews. Wodrow says he was solicited to take upon him the office of professor of divinity there, but was called home by his father to take his place as head of the family. In 1589 he married Lucretia Spens and lived near Montrose till his father's death, when he went to Corse. In 1605 when his brother, the minister of Alford, and others in the neighbourhood were imprisoned or banished for their part in the Aberdeen Assembly several churches were without preachers, and he preached every Sunday in the church nearest his own residence. The Bishop of Aberdeen and the diocesan synod urged him to take ordination, but he did not comply with their request and the Archbishop of St Andrews forbade him to preach till he should qualify himself for becoming a minister. After a time he did qualify and became minister of Keith in 1612, and remained there till he was appointed Bishop of Aberdeen, May 27, 1618. Calderwood, author of "The True History of the Church of Scotland," apparently thought his work would not deserve its title unless he repeated all the disparaging remarks current concerning the bishops. Of Bishop Alexander Forbes he says:—"The bishop was named Collie because he was so impudent and shameless that when the Lords of the Session and Advocates went to dinner he was not ashamed to follow them into their houses, uncalled, and sit down at their table." Of Bishop Patrick Forbes he says:—"It is very well known that he undertook not the ministry till bishoprics were in bestowing, and that he could see no better mean to repair his broken lairdship." Because he sympathised with the members of the Aberdeen Assembly who were excluded from their churches by the King and preached in their vacant churches yet afterwards became a bishop, Calderwood calls him a hypocrite. In Aberdeen his memory is venerated for his exertions in behalf of the diocese and his munificence in the two colleges. A fine portrait of the bishop is preserved in Aberdeen University.

RESTITUTION ACT.

In 1617, to increase the dignity and authority of the bishops, an Act was passed titled "Anent the Restitution of the Chapters." It decreed that the dean and other members of the Chapter in every cathedral should be restored to the full possession of their manses, glebes, rents, and other endowments belonging to their offices. The

bishop's palace at the Cathedral was in consequence rebuilt, and so also had been the dean's manse because he was the minister of St Machar. The other canons were parish ministers and bound to reside at their churches, and it is not certain whether their manses were rebuilt or not.

Still further to increase the power of the bishops and to de-Presbyterianise the Church of Scotland and assimilate it to the Church of England, James after much trouble procured the passing of the famous Five Articles of Perth in 1618. The popular resistance against the Articles was very great, especially against those which seemed to savour of the old Catholic Church. The five yearly holidays and kneeling at the Communion, were particularly obnoxious. To handsel the new way of receiving the Communion, and perhaps to lessen opposition to it, two of the heritors and the ministers of the parish of King-Edward, in Aberdeenshire, presented the church with two silver chalices, bearing each the following inscription:—

Sacrosancto Dominicae cenae usui in perpetuum Ecclesiae de King-Edward decavit M. Gulielmus Guild, Pastor ejusdim amatissimus, 1619.

Sacrosancto Dominicae cenae usui perpetuum Ecclesiae de King-Edward decaverunt Dominus Thomas Urquhart de Cromartie Miles, et Johannes Urquhart de Craigfintrie, 1619.

In English:—

For sacred use for ever by the Church of King-Edward at the Lord's Supper William Guild, M.A., well-beloved minister of the same [church] dedicated [this cup], 1619.

For sacred use for ever by the Church of King-Edward at the Lord's Supper Sir Thomas Urquhart of Cromartie and John Urquhart of Craigfintrie dedicated [this cup], 1619.

The engraver had put "decavit" for "dicavit," and "eiusdim" for "eiusdem." Hitherto the name of the parish had been Kinedward or Kingedward, and the form King-Edward, which is first seen on the cups, owed its introduction to another mistake of the engraver.

William Guild was afterwards one of the ministers of Aberdeen, and Principal of King's College and University.

BISHOP FORBES.

King James died, March 27, 1625, and was succeeded by his second son Charles. Bishop Patrick Forbes was his chief counsellor in Scotch Church matters, and his influence may be seen in an order issued by Charles, July 12, 1626, wherein though insisting on the observance of the Five Articles of Perth he extended some grace to those who were admitted to their parishes before the passing of the Articles, and also allowed the banished and imprisoned ministers to return to their charges. But Charles had a strong will of his own, and Bishop Forbes cannot be held responsible for all the King's measures regarding the Church of Scotland. Bishops were held better in hand than before the Reformation.

REVOCATION EDICT.

On July 21 Charles issued a Revocation Edict, recalling all dispositions whatsoever of lands teinds, patronages and benefices formerly belonging to the Church, since annexed to the Crown and then in other hands. In February, 1627, a great Commission for carrying out the Revocation Act was issued. It contained sixty-eight names, amongst which was that of the Bishop of Aberdeen. This Commission was intended, among other things, to remedy a great evil connected with the teinds. The right of levying the teinds of a parish or estate had been sold and sold repeatedly, and, instead of belonging to the clergy or any person connected with the ground from which they were levied, the teinds were in most cases held by utter strangers who dealt harshly with the farmers of the ground and prevented them from taking home their crops in harvest till the teind sheaves had first been led off. The Commission had power to put pressure on the teind-holders to sell the teinds and upon the lairds to buy them.

Charles wished that the bishops and ministers should be well paid. He bought the lands connected with the Abbey of Arbroath and the lordship of Glasgow. He assigned these to the two archbishops, and he wished this to be followed as an example when dealing with the bishops. The stipends of the parish ministers were increased from five chalders of victual to a minimum of eight. In 1633 Parliament sanctioned all the proceedings of the Com-

mission respecting the teinds, the stipends of the clergy, and the surrender of tithes and superiorities.

BISHOP BANNATYNE.

Bishop Patrick Forbes died in 1635 and was succeeded by Adam Ballenden or Bannatyne, who was educated at Edinburgh University, where he graduated M.A. in 1590. In 1593 he was presented to the church of Falkirk, and he took an active part in Church politics, violently opposing Episcopacy. He resigned his charge in 1616, and having changed his opinion on Church government he was appointed Bishop of Dunblane. In 1617 he received the degree of D.D. from the University of St Andrews. He held the office of Dean of the Chapel Royal of Stirling, and it fell to him to carry out the King's instructions regarding the clerical vestments to be worn and the ritualistic services to be carried on in the chapel. He failed to give His Majesty complete satisfaction in this matter and lost the King's favour for a time. He afterwards recovered it, and on the death of Bishop Patrick Forbes in 1635 he was translated to Aberdeen. He had a difficult position to hold, trying to please the King and not give offence to the General Assembly. Charles was determined to restore the bishops to the distinction they enjoyed in the old Catholic Church, trusting thereby to strengthen his government and to carry out his ecclesiastical arrangements.

EPISCOPACY ABJURED.

When Charles had completed all his arrangements he resolved to consolidate the Episcopal Church by introducing two books to regulate its government and form of worship. In 1636 was produced the Book of Canons, drawn up by Adam Bannatyne, Bishop of Aberdeen, and three other bishops. It was printed at Aberdeen. This was followed in 1637 by the Book of Common Prayer commonly called The Liturgy, drawn up by the Bishop of Dunblane, of which the greater part was taken from the English Prayer-book. Both books were ill-received, and a riot broke out in St Giles's Church (Edinburgh Cathedral) when the liturgy was introduced by the dean and the bishop. A covenant was drawn up, binding all who signed it to maintain the true religion by all lawful means.

Everywhere it was signed readily except at Aberdeen and St Andrews. A General Assembly met at Glasgow in November, 1638, at which the obnoxious books were condemned, and also the Assemblies in which Episcopacy had been sanctioned. The two archbishops and the greater part of the bishops were excommunicated and deposed. Adam Bannatyne, after his excommunication and deposition, remained in Aberdeen till March, 1639, and then left his palace for ever. He died in England in 1647.

EPISCOPACY RESTORED.

In 1660 Charles II. was restored, and he promised "to protect and preserve the government of the Church of Scotland as settled by law without violation." But next year "The Act Rescissory" was passed, repealing all laws passed by Parliaments since 1640, among which was the Act of 1641, in which Charles I. ratified the Act of the Church establishing Presbytery. The King sent a letter to the Council in Scotland announcing that he was to restore Episcopacy and commanding preparation for it to be made. Bishops were selected and nominated. James Sharp was appointed Archbishop of St Andrews. Sydserf, Bishop of Galloway, alone remained of the old Apostolic bishops, and he was reappointed. He could not consecrate the others alone, so Sharp and others were consecrated in London by English prelates, going up three steps in the ecclesiastical ladder—deacon, presbyter, and bishop—all in one day. On their return to Scotland, they consecrated the other nominees.

BISHOPS MITCHELL AND BURNETT.

The first of the post-Restoration bishops was David Mitchell, who was consecrated at St Andrews, June 1, 1661. He was the son of a farmer in Garvoe, Kincardineshire, and had been a minister in Edinburgh; but he had been deposed in 1638 for not signing the Covenant and had gone to Holland, where he supported himself for a time by watchmaking. As the clergy and people of Aberdeen had been strongly in favour of Episcopacy and against the Covenant at the last change in the government of the Church David Mitchell was thought a very suitable man to be Bishop of Aberdeen. His influence is seen in the

large number of Episcopalian congregations still in his diocese. He had a hand in the Book of Common Prayer introduced by Archbishop Spotswood, and he ordered morning and evening prayers to be said and the Liturgy to be used in Old Aberdeen, Aberdeen, Banff, Deer, Peterhead, Fraserburgh, Kintore, Inverurie, Kincardine O'Neil, Turriff, Cullen, Ellon, Tarves, Fordyce, Monymusk, and Banchory. He was an old man, and he died within a year of his appointment. He was buried in the Cathedral.

His successor, Alexander Burnett, had also been a clergyman in Scotland—chaplain to the Earl of Traquair—when the Covenanting troubles broke out, and he had fled to England. He was consecrated Bishop of Aberdeen in 1662, and in 1664 he was transferred to Glasgow to be made an archbishop. In 1679 he was translated to St Andrews and made Primate of Scotland where he died in 1684.

BISHOP PATRICK SCOUGAL.

He was succeeded in Aberdeen by Patrick Scougal, son of Sir John Scougal. He was born in Haddington and was educated at Edinburgh. He had been minister of various parishes and was minister of Salton in East Lothian at the Restoration. He accepted Episcopacy and remained in his parish. He was appointed Bishop of Aberdeen in 1664 and consecrated at St Andrews. He had been a Royalist in the time of the rebellion against Charles I., and he had given £100 to help to raise a regiment of horse to fight for the King.

In his diocese he was esteemed alike by conformists and dissenters but he was severe on Quakers. In his time, Gordon, minister of Banchory, published a book titled “The Reformed Bishop,” for which he was tried and deposed. This gave rise to the epigram :—

If your book had never been seen,
You had been Bishop of Aberdeen :
If you had been Bishop of Aberdeen,
Your book had never been seen.

Bishop Scougal died February 16, 1682, aged 74, and he was buried in the west end of the south aisle of the Cathedral, where his son James, commissary or ecclesiastical judge of the diocese, erected an elaborately carved tomb commemorating his virtues.

Bishop Scougal was succeeded by George Halyburton, Bishop of Brechin, who had previously been minister of Coupar-Angus.

END OF THE EPISCOPALIAN REGIME.

On December 23, 1688, James II. left England, and on Christmas Day the ministers in the south-west were taken out of their manses by the Covenanters and hustled across the borders of their parishes and commanded never to return. But in other parts of the country law and order were better respected. A convention of the Estates of Scotland met in Edinburgh, March 14, 1689, at which nine bishops took their seats, and the Bishop of Edinburgh officiated as chaplain. The Convention offered the Crown of Scotland to William and Mary along with a Claim of Right, one article of which was that Episcopacy ought to be abolished. On May 11, 1689, William and Mary accepted the Crown on the terms offered, and Episcopacy came to an end. But though the jurisdiction of bishops was taken away, nothing was substituted in its place, and in the north of Scotland Episcopalian ministers remained in their places unmolested for more than a year, and ultimately it was settled that the old Episcopalian ministers might remain in their offices for life if they were proper in their morals, sound in the faith, and loyal to the Government.

THE CATHEDRAL AFTER THE REFORMATION.

At the Reformation the Earl of Huntly, hereditary baillie of Aberdon, was able to protect the Cathedral from open violence, but he could not prevent secret theft. In 1567 the Lords of the Privy Council, understanding that the lead upon the cathedral kirks of Aberdeen and Elgin was in great part stolen away and that the common weal was deriving no benefit from the cathedrals which had fallen to the crown, instructed two Edinburgh burgesses to take down the lead and sell it to the best advantage for the men-of-war. The bishop, sheriff, and the provosts of the two towns were ordered to give all needful help. Report says that a vessel bearing the lead away was wrecked on the Girdleness Rock, a hundred and fifty yards east from the end of the sewer outfall. Public worship in the Cathedral had ceased with the abolition of the Pope's authority in the

Church of Scotland and the prohibition of the service of the mass. The stripping of the roof of its covering of lead indicated that the Cathedral was not intended to be again used as a place of worship. But it was the church of the parish of St Machar, and it was the right and duty of the Reformed Church to have public worship restored in it as soon as possible.

POST-REFORMATION MINISTERS.

Scott's "Fasti" shows that a minister, James Lawson, was appointed to St Machar in 1569. He was Sub-Principal of the University, and had preached to his parishioners in the College Chapel on account of the state of the roof of the Cathedral. He was transferred to Edinburgh in 1572.

The next minister was Alexander Arbuthnot, who was Principal of the University. In 1579 the old Catholic dean, Robert Maitland, on being guaranteed the fruits of his benefice for life resigned the deanery of Aberdeen, the rectory of St Machar, and his manse and glebe, the revenues of which were then annexed to the University on account of the smallness of its income. This resignation supplied the minister with a residence. Like his predecessor he must have preached in the College Chapel, but before he died the Cathedral had begun to be repaired, and in 1683 King James directed the Kirks of Snow and Spital to be taken down, and the material to be used in repairing the Cathedral Church. Arbuthnot was an able and accomplished minister. He died in 1583, aged 44, and was buried in the College Chapel.

The next minister of St Machar on record is David Rait, who was admitted in 1598. It seems he was expected to preach forenoon and afternoon on Sunday, and also once on Wednesday, but he preached only on Sunday forenoon, thinking he was only bound to preach once a week. He held also the office of Principal, having previously been Sub-Principal. It seems that there was a vacancy of fifteen years between the death of Arbuthnot and Rait's appointment. The University was, however, drawing the revenues of the church, and it was for its interest to put off as long as possible the appointment of a new minister. Long vacancies after the death or the transference of an incumbent of St Machar were frequent. This would not have been tolerated by the Church unless some member of the

University had preached on Sunday either in the College Chapel or in the Cathedral.

THE CATHEDRAL REPAIRED.

The repairs which the King said were going on in 1583 had been completed before 1607, when the Cathedral was covered with slates at the expense of the parishioners (Orem). In law this term means the heritors, and doubtless they bore the expense of repairing and slating the Cathedral.

In 1617 an Act of Parliament ordained that the Principal of the University should be dean of the diocese, but that the College should make a sufficient provision for the person serving the cure at the kirk.

In 1619 a Royal Commission visited the University and reported that it was in a miserable state although the deanery had been annexed to it; and that there was no ministry of the Gospel in the churches of the deanery (St Machar and Monykebock), but lamentable heathenism and such looseness as was horrible to record, even about the Cathedral. Principal Rait, it seems, had not preached even once a week. He received the degree of D.D. in 1622, and in the following year ceased to be minister of St Machar.

In 1621 Alexander Scroggie was appointed, having been transferred from Drumoak. In 1627 he received the degree of D.D., and he was one of the Aberdeen doctors who withstood the committee of the Covenanters. Spalding describes how he celebrated Communion in the Cathedral according to the ordinance of the General Assembly, the people all sitting instead of kneeling before the Communion Table as formerly. Notwithstanding his obedience to the Assembly in this matter he was deposed in 1640 for refusing to sign the Covenant, and, says Spalding, "preichit no more at Old Abirdein nor elss quhair." He died in 1659.

In 1640 William Strachan was translated from Methlick to be minister of St Machar. In 1642 Dr William Guild, Principal of King's College, having got a grant from the Government of the bishop's palace and court, broke up the buildings, and removed the woodwork and other materials to be used for some works which he was carrying on at the College. In the same year he and Strachan took down the high altar of the Cathedral, which was at the east wall of the south transept, curiously wrought in fine oak. In the west end of the nave he erected a loft for the convenience

of the people during the preaching of the sermon. It was probably furnished with seats to keep the people from moving and disturbing the preacher and hearers. At this time churches had not fixed pews and seats. He took the carved woodwork which had been behind the altar to decorate the front and back of the new loft. His predecessor, Dr Scroggie, had accumulated a large sum for repairing the church, and with it Strachan repaired the roof of the great steeple, so that at his death he left the church in good order. The chancel, however, seems to have been left to go to ruin after the lead was taken from the roof in 1567.

William Guild was originally minister of King-Edward. In 1631 he was invited by the Town Council of Aberdeen to become minister of the second charge of St Nicholas. He was elected Principal of King's College in 1640. In 1649 he was expelled by a commission of the General Assembly as being a malignant, but the masters soon reponed him. He was again expelled in 1651 by General Monk's Commission appointed to reform the College.

During Strachan's incumbency John Seaton was appointed conjunct minister, but though the University, the titular of the teinds, had agreed to pay a stipend to a colleague during the minister's declining years, it refused to pay two stipends after his death, and hence arose a question whether Mr Seaton was a minister of the parish. It remained undetermined till he resigned in 1657. The University, however, agreed to pay two stipends in 1717 or 1718, and thus a second charge was erected.

FALL OF THE STEEPLE.

In Mr Seaton's time the walls of the choir were taken down by Cromwell's troops in 1654 and removed to build a high wall of defence with projections at the four corners round St Ninian's Chapel on the Castlehill in Aberdeen. Wherever an arch is a prominent feature in a building, it forms a source of danger unless it is well supported laterally. The removal of the walls of the choir weakened the base of the great steeple, which rested on four arches supported by four pillars. After some premonitory signs of giving way it fell in 1688, destroying the roofs of the transepts and part of the roof of the nave. No attempt was made to repair the transepts, but to fit the nave for public worship a wall was built across the east end, entirely closing up

the space between the two pillars there but with doors having windows above them, opening from the north and south aisles into the two transepts.

Since then the north aisle of the nave has had to be rebuilt and re-roofed. When this was done the west end of the north aisle was cleared of a building put up by Bishop Stewart (1532-1545) for the court where cases coming under canon law were heard. Nominally, the bishop was judge of the court, but he committed this office to a trained lawyer, who was therefore called the commissary or the official, and his court was called the commissariat. Spalding was clerk of this court and after his death it was transferred to Aberdeen, shortly after the execution of Charles I.

More recent doings at the Cathedral have been the renewal of the magnificent heraldic ceiling of the nave, and the insertion of a window instead of a dead wall between the two very ancient pillars in the east end of the nave.

THE UNIVERSITY AND KING'S COLLEGE OF ABERDON.

NAMES.

There was a certain awkwardness, vagueness, and inaccuracy in the official style of the Northern University, which was happily removed at the fusion in 1860. The title ignored the Pope, the true founder of the University, and Bishop Elphinstone, the builder of the College; and it exalted King James IV., who did very little for the University and nothing for the College; and though the University was "of" Aberdon (afterwards Aberdeen), the College was not "of" but "in" Aberdon. At first the institution had no fixed name: Pope and King, bishop and archbishop spoke of it each in his own way. The Pope spoke of it as The Public School and University of general study in the city of Old Aberdon or, shortly, as the School of Aberdon. He evidently thoroughly knew what he was writing about. The King, James IV., put the University first and called the institution the University and Public School in the city of Old Aberdon. The Archbishop of St Andrews, writing in 1497, has "the Collaeg foundit be our Soverane lord and brother James the ferd at the universite of Aberdon." Before the erection of the College building Bishop Elphinstone writes "Universitas Aberdonensis," the University of Aberdon; and in one charter he prefixes "alma," or foster-mother, repeatedly. In his foundation charter of the College the University is styled (in Latin) The University and Public School of the town of Old Aberdon, and the College itself The Collegiate Church or College of St Mary in her Nativity. Lastly, in the title of this charter, later than the date of the charter itself, the College is styled The Royal College of the University of Aberdon.

ORIGIN OF THE UNIVERSITY.

Before 1495 of our reckoning an application had been made to Pope Alexander VI. by King James IV. requesting him to establish in the cathedral city of Old Aberdon a

Public School and University of general study in the faculties of Theology, Canon and Civil Law, Medicine, and Liberal Arts, and also in any other legitimate faculty sanctioned in other universities. On February 10, 1494-5, the Pope issued a bull or letter acknowledging receipt of the King's petition setting forth that in some parts of his kingdom in the far north there were places cut off by arms of the sea and mountains from public schools, where the people were rude, ignorant and almost savage, and there could not be found persons qualified to preach and administer the sacraments of religion to the people. The petition had stated also that these places were near enough to the famous city of Old Aberdon to benefit by a public school if one were established there. Whereupon the Pope instituted a Public School and University of general study in Old Aberdon, and appointed William Elphinstone the Bishop of Aberdon and his successors to be Chancellors of the University, and to grant the degrees of bachelor, licentiate, doctor, and master to well-deserving students. Bishop Elphinstone is not otherwise mentioned in any way in the papal bull, but he had been the instigator of the petition. He had been Bishop of Ross, and he knew personally the state of the northern districts of the country. On the same day the Pope ordered the bull to be published and carried into effect by the Bishops of Aberdon and Dunblane and the Abbot of Cambuskenneth, or any of them, and it was published two years afterwards by Bishop Elphinstone.

No man was so well qualified by previous study, experience, and disposition to carry the bull into effect as Bishop Elphinstone was. He was the son of an ecclesiastic of the same name who was a canon in Glasgow Cathedral when his son matriculated in Glasgow University in 1457. The father was Dean of the Faculty of Arts in 1468 and may have held this office even before his son became a student. After graduating M.A. the son became a regent in the University, and afterwards Dean of the Faculty of Arts, Dean of the Faculty of Law, and Rector of the University, and he was official or judge of the ecclesiastical court of the diocese of Glasgow, where intricate cases affecting the validity of marriages and wills and the succession to property were tried. He afterwards studied in the Universities of Paris and Orleans, and he rose to the highest eminence as a lawyer. Returning to Scotland he was appointed Official for the diocese of Lothian, the most important legal office in Scotland next

to that of King's Justiciar. He afterwards became Bishop first of Ross, and then of Aberdon. He was high in the confidence of James III. and James IV. He had been on embassies to France, England, Burgundy, and Austria; and he was King's Chancellor in the reign of James III. and Keeper of the Privy Seal in the reign of James IV. These offices probably brought him wealth, else he could not have thought of instituting a University single-handed.

COMMENCEMENT OF THE UNIVERSITY.

After the publication of the bull he was bound to proceed with the erection of the University sanctioned by the Pope, especially as at the request of King James the Pope had agreed to transfer to the new University the revenue of the hospital of St German in the diocese of St Andrews.

The first notices of a University having actually been instituted are found in "Registrum Episcopatus Aberdonensis," I. 344, 346, where there is a document in Latin dated at the University of Aberdon, February 12, 1498-9, and mention of William Strachan, vicar of the University of Aberdon. In the bull abolishing the Church of New Aberdon (1497-8) William Strachan is spoken of as minister of this Church, and it may have been continued nominally as a parish church to give status to its minister as an official in the Cathedral University. In "Fasti Aberdonenses" (lxxvi.) he is styled Rector of the University in 1499, probably on no other authority than what has been given above.

It seems clear that the Bishop had, as in duty bound, set agoing in some way the University of Aberdon. If we might hazard a guess it would be that some of the cathedral prebendary canons had been appointed to do in a formal manner in name of the university what they had previously been doing on behalf of the cathedral:—teaching young priests theology, canon law, languages, etc., the bishop himself participating in the work and acting as rector, and William Strachan taking a part and acting as vicar of the ecclesiastical side of the establishment. This might have gone on for several years, young priests, and perhaps others, being taught as in a public school.

ENDOWMENTS.

In 1497 King James made over to the University the patronages and revenues of the churches of Aberbuthnot (Marykirk), Glenmuick, and Abergarny (Glengairn), for the support of regents, lecturers, students, and presbyters and chaplains, and to found a collegiate church for them, where they would say prayers for the soul of the King, his future spouse [Margaret of England], his father and mother, his two brothers, James, Archbishop of St Andrews, and John, Earl of Mar, etc. This bequest cost the King nothing, but it made the University a parasite on the Church. The clause including the future Queen among those for whom prayers were to be said shows that James's marriage had been arranged for earlier than is usually said, in fact before the truce between James IV. and Henry VII. At the same time James mortified for the support of a graduate in the faculty of medicine £7 10s from lands in Blairshinnoch, and smaller sums from other places, all in Banffshire, amounting to £12 6s Scots, or £1 0s 6d sterling, yearly. This was the whole amount of the endowment made by the Crown for the University and the College. Perhaps one reason why James endowed a medicinar in the new college was that he was a bit of a doctor himself. Pitscottie says he was "well-learned in the art of medicine, and was ane singular good chirurgeon." The accounts of the Lord High Treasurer show payment of a gratuity to "a blin wif that had her eyne schorne" (eyes cut for cataract). He healed a sair leg to a lad and attended to another whose leg was broken. He kept a turcas for drawing teeth for his friends, but when he needed a tooth drawn for himself he employed a barber.

In 1498 Bishop Elphinstone made over to the University and two chaplains in the Collegiate Church the patronage and revenues of the church of Slains, a gift from the King; but the patronage was claimed also by the Earl of Buchan, who confirmed the grant and laid on the staff of the Collegiate Church the duty of praying for him and all his relations.

In 1499 the bishop erected the church of the New Town of Aberdon into a perpetual vicarage in connection with the University to be served by William Strachan, its minister before it was abolished. The dean of the cathedral, who was the rector of St Maehar, gave up to the new charge the teinds of Seton and the New Town of Aberdon. A few

days later the Bishop of Aberdon annexed the vicarage to the University of Aberdon and decreed that in future the vicars should be graduates in canon law and lecture continuously in that faculty. Thus another professor of the University was provided with an income at the expense of the church.

In 1500 Robert Blinseile, burgess of Aberdeen, mortified to the University thirty-three shillings Scots annually from a house in the Castlegate for funeral services and annual masses to be made with some pomp in the church for himself, his wife, his family, and friends.

BUILDING COMMENCED.

In 1500 with only these slender endowments secured, Bishop Elphinstone began to build the College of the University. An inscription on the west end of the chapel in old English letters says :—

PER SERENISSIMUM ILLUSTRISSIMUM AC INVICTISSIMUM J.4.R.
QUARTO NONAS APRILIS ANNO MILLESIMO ET QUINGENTESIMO
HOC INSIGNE COLLEGIUM LATOMI INCEPERUNT EDIFICARE.

In English this is :—

By the most serene, most illustrious, and most invincible James Fourth, King, on the fourth day before the nones of April (April 2) in the year one thousand and five hundred, masons began to build this splendid college.

The laudatory terms of the inscription in reference to James IV. shows that it had been carved before the fatal day of Flodden. The phrase "splendid college" must refer to the chapel and the bell-tower surmounted by the crown. The campanile well deserves to be called "insigne" from its great height (100 feet from the ground to the top of the crown), from the beauty of its design, the graceful proportions of the crown, the mystery of its construction, and the fear the beholder never fails to feel at first sight for its stability. The chapel and tower are evidently one structure, but one can hardly believe that the same architect planned the crowned tower and the mean repulsive south front of the chapel. There must have been at first two large windows between the two doors, but none of the small windows near the eave. There is also something peculiar about the size and the positions of the windows in the

north side of the chapel. Probably changes have been made on the windows since it was built. The chapel was not a parish church with a district attached to it; but it was a collegiate church open to the public, who were summoned to funeral and annual memorial services for benefactors by ringing the great bells of the tower for half an hour. The bishop had no doubt calculated when he built the tower and plenished it with bells that occasional additions would be made to the endowment of the University by mortifications for funeral exequies and annual masses in the church conducted by the professors, chaplains, and choir boys. With the same object in view the bishop provided a burying ground, which extended along the north side of the church westward to the street, and the north door of the nave was reserved for funeral processions. At the Reformation the University was in a woeful plight when this source of revenue dried up and the teinds of Marykirk, Glenmuick, Glengairn, and Slains were withdrawn.

COLLEGE BUILDINGS.

Boece says:—"Bishop William was so pleased with the first fruits of his school that in order to put it on a firmer basis he founded a college magnificent in respect of the beauty and extent of its buildings. In it there is a church, etc." Boece could not stick to the plain, simple truth, and he is evidently exaggerating greatly about the other buildings besides the church and tower. But we must at least credit Bishop Elphinstone with the erection of a residence for the theologian, who was the Principal, a teaching hall, and some minor buildings—all within the limits of the Quadrangle. He began also, Boece says, separate houses for the professors of canon law, civil law, medicine, and humanity apart from the College; but these were unfinished at his death. The canonist's manse was, according to Gordon's Map, on the south side of Powis Burn and on the west side of the street. This was the manse of the Church of New Aberdon, afterwards the Snow Church, and the parson of the Snow Church was always canonist. Boece is probably wrong in saying it was not finished at the bishop's death. The civilist's manse is shown on the east side of College Bounds at the north side of a lane called Orchard Walk. The medicinair's manse was on the north side of Powis Burn, on the west side of the street. The humanist taught what was called

The Humanities or Philosophy ; but he began his classes in Latin and latterly got no farther, hence the humanity professor meant the Latin professor. His manse was within the bounds of the Snow Church. A view of Old Aberdeen in Gordon's " Description of Both the Towns " shows the manse within an enclosure with an open gateway. The manse is gone ; but the gateway, built up, is still seen on the west side of College Bounds with Bishop Elphinstone's arms and mitre above the arch. Boece says the bishop covered the college church, the towers, and almost all the other buildings with lead. If this is true, the east side of the quadrangle and what is called the Ivy Tower had been built by the bishop as well as the Crown Tower and the Church.

Bishop Dunbar added to the east wing and the tower at the end of it another wing and tower on the south side of the quadrangle. The upper story of the east wing was a great hall ; but Bishop Dunbar's addition consisted of bed-chambers for the students and quarters for the professors and assistants.

COLLEGE BOUNDS.

College Bounds, " Septa Collegii," was the name of the ground belonging to the University on the south side of Powis Burn. Here, opposite the Church of St Mary at the Snows, " e regione templi beate Marie ad nives," were the houses and gardens of eight chaplains. Next the bridge lived the chantor, who had charge of the elaborate musical service in the church ; and next him was the sacrist, who had charge of the furniture, dresses, and apparatus of the church, and of providing the lights—wax candles for the altar and oil for the lamp which burned day and night before the Sacrament house, where the eucharistic chalice, etc., were kept. He rang for matins and vespers morning and evening, for high mass at nine in the morning, and before he opened the gates in the morning and shut them in the evening. South of the sacrist's manse came the residences of the other chaplains, and at the end of the row was the civilist's manse, a large house in which there were chambers for two bachelors of law, who were his assistant teachers.

THE COLLEGE.

From the detailed duties of the sacrist ("Fasti," 90-92), and the repairs ordered at a Royal Visitation in 1623 ("Fasti," 282), and from "Boece's Bishops" (96), we may conclude that the College, as planned by Bishop Elphinstone and finished either by himself or a successor, occupied three sides of a quadrangle. The church was on the north side, and on the east side there was a two-story building having the Public School below and a great hall above, which terminated at the south end in a tower—the Ivy Tower—containing a kitchen below and small sleeping chambers above. On the west side was the campanile or bell-tower, and a long two-story building rising to three stories at the south end, where it terminated in a tower with a wooden spire, called the west Capitol. In this wing there were apartments for the teachers and students. The Principal's quarters adjoined the south-west tower, where the building rose higher than the rest. As already mentioned, there were four extramural doctors, eight chaplains, and two bachelors of civil law. Between the two towers on the south we may suppose there was a wall, with a gate in the middle, closing in the quadrangle. The north-east corner was closed up by a high wall, with an arched gateway giving access to the "lettronis" ("Fasti," 282).

LATER ADDITIONS.

Bishop Dunbar, the Chancellor, finding the accommodation insufficient, erected another building on the south side of the quadrangle; and if the gate had been in a wall there at first this had necessitated the opening of an entrance in the west wing. A sketch in Gordon's Map shows a Grammar or Latin School, open to the public, between the west front of the College and the street, and having no communication with the College. It was taught by the Humanist, as he was called in the College; or Grammian, as he was called in the school. If there were originally two large windows between the doors of the church in the south side they had been built up in the time of Bishop Stewart, Chancellor from 1532 to 1549. The east door had a vestibule, literally a place for putting on vestments, where were kept the sacred vessels and

dresses. Here those who were to officiate in the church put on the requisite dresses before going into the choir. Bishop Stewart erected a long building with a sloping roof along the south side of the church, covering both doors. Gordon's sketch in his map shows two moderately large windows in the east end, which was the chapter-house. Two tiers of windows in the other part show that there were two stories in it. The lower served for a treasury or jewel house and a vestiary, entered probably from the chapter-house. The upper he fitted up as a library, to which he gave many books, most of them connected with the musical service in the church. For this reason there was a door, now partly built up but still visible high in the south wall of the church, communicating with the organ gallery. As many doors into the church from the outside would have been objectionable the organ gallery had been reached either by an inside stair in the church or by a stair in the thickness of the wall, and this may have been the only access to the bibliothek or library as erected by Bishop Stewart, the Chancellor.

BISHOP STEWART, A KNIGHT.

In the first year of his office the Chancellor-Bishop, who was also Treasurer of Scotland, was employed by King James V. to proceed to France to seek "for marriage of the Duke of Wandomis daughter to the Kingis Grace" ("Diurnal of Occurrents," 17). He set out March 3, 1432, taking with him a large company, among whom were Walter Boece, brother of the Principal, parson of the Snaw Church and therefore Canonist, a very proper person to go on such an errand, and also Sir Walter Ogilvie of Dunlugas, in Banff, and many more. They travelled in great style, with nine mules carrying their baggage, and silver bells gilt with gold hanging at them. On arriving in London the King of England created the whole company knights, amongst them three priests including the bishop; and on August 5 he went away on his embassy to France. A marriage was arranged, but James did not marry the Duke of Vendome's daughter. He cannily contrived to get his first sight of her while he was disguised as one of his servants, and then he went to see the daughter of the French King and married her.

THE REFORMATION.

The Reformation wrought a great change upon the College. Its conventual character at once entirely disappeared. The tower bells ceased to ring for funerals, matins, and vespers; the daily high mass was strictly prohibited by law; the splendid annual memorial services for the founder, King James IV. and Queen Margaret, ceased to be celebrated; the chantor and his well-trained musicians were silenced; the sacrist was relieved of his multifarious duties; the chaplains and choristers were out of work, but unfortunately for them their incomes had also ceased; playing on the organs (called an organ now) was forbidden by the reformers, and the wonder is that they were not torn down and cast into the street; the hanging lamp that since the consecration of the church had burned day and night in the choir was allowed to go out and was never relit; the church was deserted and speedily was on the way to ruin.

THE CHURCH AND THE TOWER.

In 1623 a Royal visitation of the University was made, when it was found that the glass in the great west window of the church was broken, and this was ordered to be renewed. The second westmost window in the north side of the church and the east window in the apse had been built up with stones. These were ordered to be taken out and glass windows to be put in. Various other repairs were ordered for the church and steeple. For the sake of good looks the clock was to get a new brod (dial), and it was to be painted. The dettoun (diction or inscription) on the west end of the church was ordered to be coloured with oil colours, an improvement greatly needed at the present day.

THE TOP OF THE TOWER BLOWN DOWN.

A great misfortune befell the campanile in 1633. On February 7 a storm of wind blew down the top of the steeple. Crown, lantern, and arches crashed through the roof of the steeple and the church. Immediately the University set about rebuilding the top of the steeple. In 1634 the rector wrote to King Charles that with the

help of friends £200 had been spent, but not a quarter of the work to be done had been accomplished; wherefore he begged that His Majesty would for some years give the University the share of the revenues of the Bishop of Aberdeen which had fallen to the Crown by the Reformation. By the influence it is said of Dr Guild, who was Principal of the University and chaplain to the King, this was granted in 1642; but four years before that Charles seems to have given some help with repairs. Gordon, after relating the misfortune, adds that the crown was quickly afterwards restored in a better form and condition by the direction of Patrick Forbes of Corse, who was Bishop of Aberdeen and Chancellor of the University. One reason for thinking that Charles had helped with the repair of the great steeple is that there is evidence that he helped to repair the roof of the church and its steeple soon after 1638. A small hexagonal steeple rises from the roof of the church at the middle. This had been covered anew with lead, and on three of the sides of the base a shield with a vase of lilies is seen alternating with another shield bearing three fishes crossed—the emblems of the city of Old Aberdeen—and below each of the shields there are the King's initials C.R.

After the Reformation the students were assembled for morning prayer in the Public School in the east wing, and on Sunday morning they marched to the Cathedral, headed by the professors. Bishop Forbes, Chancellor 1618 to 1638, resumed public worship in the nave of the church, thereafter styled the chapel; and in 1642 Dr Guild, Principal (1640-1651), made a not very successful attempt to draw an audience for a weekly sermon on Wednesday. The great bell in the steeple was rung, but when the people would not come to hear him he wearied and gave it up. In 1720 Principal Chalmers made another attempt, which also was unsuccessful.

FRASER'S BUILDINGS.

At the visitation in 1623 it was found that the joists in the roof of the house built by Bishop Stewart were decaying because rain had got in where the roof was joined to the chapel wall. The roof was ordered to be tirred and the joists turned with the sound ends to the wall, etc.; but apparently nothing was done. In 1723 the roof had partly fallen in, and the whole fabric was in

a ruinous state, as is seen by an inscription on the south wall of the chapel below a coat of arms. When James Fraser, a graduate of the University and physician to the King, was on a visit to Aberdeen the state of the library attracted his notice. He rebuilt it at his own expense, and as neither the chapter-house nor the jewel-house were required after the Reformation, the whole length of the building was given to class-rooms on the ground floor and a library above. Unfortunately, about 1772 the whole building was consumed by a fire, but the books of the library were saved and placed in the nave of the chapel, which was fitted up as a library in 1773. The ruins of the building were removed, and to protect the south wall of the chapel which had suffered injury in the fire, it was eased with granite and buttressed. At the same time a number of stones bearing coats of arms were built into the front of the chapel and the buttresses.

THE MURRAY LECTURES.

In 1793 Alexander Murray, D.D., Philadelphia, a native of New Deer in Aberdeenshire and a graduate of the University, bequeathed a large sum of money to found a Sunday morning lecture in the chapel, to begin after the death of his wife. He had been grieved at the irreverent behaviour of the students on Sunday morning on their way from the College to the Cathedral Church. The lecture began in 1824, and for the first two sessions the lecturers gave the income to put the choir of the chapel in repair. Till 1860 it was compulsory on the students to attend the lectures. It then became optional, and the lectures are now open, as far as the accommodation will permit, to former students and others interested in the University.

When the lectures began the chapel was seated for the students, and Bishop Stewart's pulpit in the Cathedral, which had been laid aside, was given to the chapel because the University gave up its right to the students' gallery in the Cathedral. It is now in the north side of the choir, most likely in the spot where had hung the lamp that burned continually before the place where the sacramental chalice was kept.

When the library was removed from the nave in 1870 the roof of the chapel was found to be in a decayed state, and it was restored in 1873. The choir screen and the

stalls were moved westward to enlarge the choir, and the nave thus reduced in length was converted into an anteroom for the place where service is conducted. The original place of the choir screen is marked by the small door high in the south wall, where the organist got access to the organ gallery. In 1892 the interior of the chapel was richly decorated by a fund raised by public subscription.

THE SOUTH SIDE.

The range of buildings erected by Bishop Dunbar (1518-1532) on the south side of the Quadrangle had become ruinous and in 1725 it was taken down, and it was rebuilt before 1730, chiefly at the expense of Dr Fraser, who had rebuilt the library, and partly by contributions from the Principal and Professors. The new building was wider than the original, and afforded room for an arched piazza supported by square pillars, on the side next the Quadrangle, which was a favourite walk of the students in cold weather. The new building was three stories high and gave accommodation for a large number of students, and for two professors who lived in the west end beside the south-west tower. When students ceased to live within the college, the ground floor was converted into class-rooms. In 1860 there were no resident students and only one resident professor, and the south block of building was taken down and rebuilt for classrooms, being ready for use in 1862. Bishop Dunbar's building was 16 feet wide; Dr Fraser's 32; and both were within the original Quadrangle area. The modern building, which is over 40 feet wide, does not come more than a few feet into the area of the original enclosure.

THE WEST WING.

In 1623, when a Royal visitation took place, it was ordained that the fore wall of the College, on the west side, between the great steeple and the nearest window of the Principal's Chamber adjoining the tower, should be raised and made level with the rest, and that the lead of the roof should be lifted and mended. In the sketch in Gordon's Map and in the oil painting in the College the front wall still remains lower than the Principal's chamber next the south-west tower, and nothing had been done.

In 1640 Dr William Guild was chosen Principal of

King's College. The Snow Church had been given to the College by Act of Parliament in 1617, and Dr Guild—according to Spalding—cast down the walls of the church and employed them to build up the College yard dykes, and to employ the hewn work to repair the decayed chalmer windows in the College. The dykes had been those seen in Gordon's sketch round the Grammar School, and the decayed windows had been those of the west wing.

In Gordon's sketch (1661) we see the Grammar School, a long low building where the gravel avenue is between the gate and the College. On the north side of it we see an entrance into the College under the second window. In the oil painting the door into the College is not visible. It seems to have been omitted, or else it had been under the first window. The door looks small, and all things lead to the inference that at first the court of the College was enclosed on the south by a high wall with a gate in the middle, and that the entrance in the west side had been opened when Dunbar's building closed the south side. This is confirmed by a shield in the south side of the chapel with the Royal Arms in a style later than the founding of the College. Kennedy says this shield was originally above the west entrance. If so, the likelihood is that the stone was inserted above the door when it was opened by Bishop Dunbar.

A sketch by G. Smith in Wilson's "Aberdeen" (1822), reproduced in "Handbook to University of Aberdeen, 1906," shows that the low part of the west wing had been removed and that a low wall with an iron railing had taken its place. The removal of the low part of the west front had been shortly before 1780, and the stones had been used in building the two manses near it. At the same time had been removed the Grammar School and the walls enclosing its playground. On its site there is a gravel walk, with rows of stones supporting iron chains at either side. The chains are away now, but the stones remain, serving no useful or ornamental purpose.

The south-west tower was standing in 1822, but having lost its spire it was inconspicuous, and Wilson in "Historic Aberdeen" says it was away then. It stood with its adjunct, the Principal's quarters, till 1824, when the whole of the west side of the College was cleared away, and the present west front was erected in 1825. The upper story contains an archaeological museum, and the Senatus meeting-room, in which are valuable portraits of Bishops Elphinstone, Dunbar, Forbes, and other worthies.

In 1872 the south wing was extended eastward to obtain another classroom. By it the Ivy Tower is shut out of view from the south. A further extension eastward was made in 1895 by the erection of a building called the Pavilion for the use of students.

CROMWELL'S TOWER.

A square building at the north-east corner of the Quadrangle bears this name, although a list of the contributors to its erection does not contain Cromwell's name. It was built in 1658 to accommodate more resident students. It is 48 feet long and 36 feet wide, and originally contained 24 rooms in six flats, and accommodated many students. When they ceased to occupy it the building was converted into classrooms. At present the ground floor is occupied by the sacrist, and the first floor contains private rooms for lady students. The upper stories contain classrooms and a meteorological observatory.

THE MUSES.

There was a great influx of students in the time of the Commonwealth, and to give more accommodation a three-story wooden building called the Timber Muses, with a passage under it to the rear, was put up between the apse of the chapel and Cromwell's Tower. At the same time the south-east buttress of the apse of the chapel was removed to admit of the erection of a bell-tower, in which there was a stair to give access to the rooms in the Muses. Cromwell's Tower, the Muses, and the bell-tower, are seen in Gordon's sketch made in 1661, but the top of Cromwell's Tower is shown in an unfinished state. The Muses did not interfere with the light of the chapel, for the east window of the apse had been built up before 1623, when it was ordained that the masonry should be taken out and glass put in; but this had not been done.

In 1825 a staircase was attached to the west side of the Square Tower, and this caused the removal of the Muses and the small bell-tower; but the buttress of the chapel has not been restored, nor has the east window been opened, which is desirable now that the other windows are darkened with coloured glass and the interior of the chapel needs more light.

THE EAST WING.

Of all the original buildings of the college the east wing stood the longest, except the chapel and the campanile. When the south side was demolished in 1860 there was a scarcity of classrooms till it was rebuilt, and the old Public School on the ground floor and the Great Hall above it were used temporarily as classrooms for the Greek and Latin Professors; but they too had to come down for re-building when the south wing was completed. At the same time were removed the kitchen and the quarters of the Economus, which were attached to the Ivy Tower and projected eastward. These were erected in the reign of James I.; and most likely in the days of small things the original kitchen had been in the Ivy Tower, a very substantial building with walls six feet thick. In 1623 it had been ordained "that the east tour sould be new gestit and loftit in all the loftis thairoff and passagis (stairs) maid affirand as was maid abefoir, and four fuit heiche of astller to be put round about the heid thairoff, and the haill tymer work of the heid off the said towr to be tirrit, mendit, new sarkit, and thickit againe and the pear thairoff only to stand." The pear was the oval top of the wooden spire of the tower. The ordnance was not carried out. The wooden steeple was blown down on Candlemas day in 1715, and there are no lofts in this tower now. But for the intervention of Dr John Hill Burton it would have been demolished when the east wing came down in 1862. As rebuilt, the east wing was devoted to two divinity classrooms on the ground floor, and two classrooms and an examination hall in the upper. The lower floor is now occupied by two reading rooms for students and the entrance to the library.

THE LIBRARY.

The library has been in four places. Bishop Stewart (1532-1545), who founded it, placed it in the upper flat of a lean-to against the south wall of the Chapel. On the decay of this building Dr Fraser renewed it in 1725, giving more accommodation to the library in the new building than there had been in the former. Here it continued till 1772, when the building was destroyed by fire, and the books were saved by throwing them into the nave of the chapel from the organ gallery. Next year shelves and

book-cases were fitted up in the nave of the chapel, where the books were kept till 1870, when a large new building was erected on the east side of the back of the east wing. Again more accommodation was soon needed, and the building was enlarged at the east end. It now occupies one large hall, reading rooms for professors and students, and a librarian's room. A compartment in the hall has been fitted up and filled with books for classical students, in memory of the late Sir William Duguid Geddes, Principal of the University.

BELLS.

Boece says that in the campanile or great steeple there were thirteen bells, the gifts of Bishop Elphinstone. He had provided several of them during his life, but others bore inscriptions showing that they were cast in 1519, five years after the bishop's death. The greatest bell, named Trinitas, was rung every night at eight o'clock to call all students resident and non-resident to supper. It was also rung occasionally for service in the church. It measured 5ft. 5in. across the mouth and was mounted so as to revolve and be rung by a great rope. Four smaller bells had names also, and had on some occasions been rung along with Trinitas. Five were used for chiming the half hours and were struck by hand hammers by as many ringers. These had been used only on certain days and at certain hours. There were also two bells in regular daily use, and these may have been hung lower in the tower than the others. The thirteenth must have been the clock bell, which was large, for it was struck by a heavy hammer set in motion by the clock. Three other bells used at the altars during service conducted at them had been very small. There is no mention of a bell in the little steeple on the church, and it had not had a bell.

In 1619 we read of repairs being required for the head of the steeple, but as the bells are not blamed, the injury it had sustained had been caused by natural decay. The head of the steeple was blown down in a storm of wind in February, 1633, but it was put up again as good as ever in no great length of time. The bells being below the roof of the steeple, seem not to have suffered injury, and in 1642 we have Dr Guild ringing the great bell both of St Machar and the College to bring the people of Old Aberdeen to hear him preach in the chapel. Thereafter the peal of

bells in the tower had hung useless and silent for many years, the two ordinary bells serving all the wants of the College. For some reason, either because they were too big or not readily got at, another bell was got for the small tower at the Muses. It was cast in 1660, when Cromwell's Tower and the Muses were completed. In 1700 the College was in treaty with a French founder for recasting the bells and getting five or six good musical bells out of the metal of the old bells. As an experiment two bells were recast as one in 1702, and it is now in the steeple. Apparently the rest were allowed to hang without being rung for fear of bringing them down and damaging the steeple.

They hung unused till 1823, when the whole of the original peal was sold as not required in the College, but not the new bell cast in 1702. When the small bell-tower was taken down in 1825 the bell in it was transferred to the steeple, where it seems to have been in constant use to call the students to their classes, and to have been rung with great force, which in Scotch would be—"with a vengeance—" hence it got the nickname of "Clatter Vengeance." Vehement ringing with a heavy clapper beats out the side little by little till it cracks and then the bell is useless till it is recast. This befell "Clatter Vengeance;" hence it was removed from the great steeple, and is now in the library off duty, while another has taken its place in the steeple. There are now two bells in the steeple, one rung for service in the chapel and the other a class bell.

THE CONFESSORIAL.

In the side of the choir screen next the nave there are several panels with small apertures of various shapes. These had formed part of confessional boxes, which had been entered by the clerical professors from the choir. Those who wished to make confession had stood outside in the nave.

HERALDIC SHIELDS ON THE CHURCH.

Built into the exterior walls of the church and its tower are four blocks of sandstone bearing heraldic representations. They are of Morayshire sandstone,

brought by sea, perhaps from Lossiemouth, where a durable stone is quarried, and they were probably carved and placed in position when the church was built.

1. Above the north door of the church there is a vacant space where a coat-of-arms had once been. Above it there is a stone showing a shield upheld by two angels and bearing a lion rampant (on his hind legs), showing relationship to the Sovereign. Above the shield there is a ducal crown. This appears to be the coat-of-arms of James Stewart, son of James III. and a daughter of the King of Denmark, Archbishop of St Andrews and Duke of Ross. He was born in 1476, and he died in 1504. The crown represents the dukedom of Ross. The stone had been put up before his death. His claim to be commemorated on the wall of the church arose from his having consented to the annexation of the patronage and revenues of the church of Aberluthnot (Marykirk), in his diocese, to the University.

2. On a buttress at the north-west corner of the church there is a stone with a shield bearing the arms of James IV., along with those of his Queen, Margaret Tudor, daughter of Henry VII. On the part of the shield on the observer's left is the lion rampant, for Scotland, and on the right his wife's arms divided into four quarters, the first and four containing each three fleurs-de-lis, for France, of which Henry VII. claimed to be King. The fleurs-de-lis in heraldry are regarded as lilies, but they are more like the flower heads of the iris. The second and third quarters contain each three lions on their four feet, looking at the observer. These are the national arms of England, for Margaret's father. The supporters are also those of Henry VII., a dragon and a hound, which are looking backward, on the watch. Above the shield is an imperial crown for Henry VII., who was King of England and Ireland and claimed also the throne of France. Below the shield there is a thistle for James, flanked by two roses for Margaret.

Princess Margaret—born Nov. 24, 1489—was contracted to marry James IV. before May 2, 1497 ("Fasti," 13), and by James's foundation prayers were to be made for him and her in the church. The marriage took place August 8, 1503, and the stone had probably been put up then, though it might have been carved before the masons began to build in 1500. The contract of marriage had long been publicly known, and Margaret had had her portrait painted fondling a young unicorn in her lap, a

compliment to James and an intimation to her friends that she was not to die an old maid. At that time unmarried ladies made pets of apes, some of them to such an extent that men would have nothing to do with them. At a time when it was believed that the ghosts of the dead did in the nether world what they had done in life in the upper this gave the poets occasion to represent old maids as doomed to a cheerless solitary life going about with an ape on a chain. (Shakespeare:—*Much Ado*; *Taming of Shrew*. *Shenstone* :—*Lady before Marriage*).

3. On the north buttress of the campanile we see the coat-of-arms of James IV., a shield bearing a lion standing up on his hind legs, bordered with a double line ornamented outside and inside with fleurs-de-lis. The shield is supported by two unicorns tethered by a chain to the ring of a stake in the ground. The chains pass behind the hind legs, over the backs, and under the nearest forelegs. They are attached to open crowns on the unicorns' necks, which are represented as watchful and looking backwards. Above the shield is a closed helmet surmounted by a crown surrounding a bonnet. Behind the crown rises the fore-half of a lion "girning," with a crown on his head and a sword in his right paw. Above the rims of all the crowns there is a border of fleurs-de-lis alternating with crosses having four equal dovetailed arms. Behind the lion's head is a scroll bearing IN DEFENS, and along the top of the stone there is ANNO DOMINI 1500. This date coincides with that of the memorial inscription on the end of the church near by, but the last figure is doubtful: some take it to be 2, others 4 and some 9. The stone may have been carved with the arms of Scotland two or three years before it was built into the wall.

This stone is believed to be the oldest having a shield supported by unicorns; but unicorns being Scripture animals were very likely early adopted as supporters of shields. Unicorn, one of the pursuivants of the Lord Lyon, is mentioned in 1420; and gold coins showing a unicorn with a crown on his neck and supporting the royal shield, were struck by James III. in 1486, and by James IV. in 1496, one of which he may have sent to Margaret. The coverlet of his bed was embroidered with thistles and unicorns.

4. The stone on the south buttress of the campanile is the latest. It commemorates Alexander Stewart, son of James IV. and Marion Boyd. He was born in 1493 and

succeeded in 1504 as Archbishop of St Andrews, in name only, to his uncle James Stewart. He fell along with his father at Flodden in 1513. The shield shows his relationship to the Sovereign by the lion rampant. Like his uncle's it is supported by two angels, both of them being archbishops. Above the shield there is a cross with four equal arms, and at the sides of the upper arm are his initials A.S. As he had no claim to be commemorated on the College walls till he became archbishop the stone must have been carved after the death of Archbishop James, which shows that the campanile had not been completed before 1504, as the stone appears to be in its original place. Two projecting stones on either side of the west window had borne statuettes of the Virgin with her babe and Christ in His passion.

In an old painting in King's College there is shown, on the same buttress as No 4 but lower down, a sun-dial; but the stone with it has now given place to another.

Among these shields, which seem all to be co-eval with church and tower, we should have expected to find another bearing the arms of Bishop Elphinstone. He was fond of heraldry and would certainly have put his arms either on the church or on the tower. Probably he had put them upon the east side of the tower where we see a place in which a carved stone had been placed, though from decay it has now disappeared.

Another vacant place above the north door of the church, and below the arms of James Stewart the Archbishop, may have once been occupied by the arms of another person for whom James IV. ordained prayers to be said, John Stewart, Earl of Mar, the brother of the King and the Archbishop.

LATER SHIELDS IN THE QUADRANGLE.

1. Over the entrance to the Crown Tower there is a shield with three crescents on a band across the top indented on the edge, with a falcon rising for a crest. Above are the initials I.S., and at the sides OB. AD. MDCCCXL, telling that John Simpson died in 1840. The motto below—ALIS NUTRIOR—means I am provided for by my wings. John Simpson of Shrubhill, a native of Rothiemurchus, was the founder of the Simpson Greek and Mathematical prizes and the Simpson bursaries.

2. Above the west door of the chapel there is a stone

with a shield bearing the arms of Bishop Elphinstone, the founder—a couple or chevron between three boars' heads erased or torn off, two above and one below. The boars' heads are torn off at the neck, as if by boar hounds, and they indicate extensive hunting ground. Boece says the bishop was descended from the ancient family of Elphinstone, who had wide domains in Aberdeen. The chevron indicates that he was illegitimate, or not of the main line. At the sides there are, in incised letters, OB. A.D. MDXIV. A.E.S. LXXXIV., telling that he died in 1514, aged 84. Above the shield is a mitre between the letters W.E., for William Elphinstone. The stone and others by the same hand had been inserted long after the chapel was built.

3. In the first buttress on the south side of the chapel is the shield of Bishop Gavin Dunbar, Chancellor of the University, son of Sir Alexander Dunbar of Westfield. It shows three cushions within a double line floriated within and without. Above the shield is a bishop's mitre between G.D., the initials of the bishop's name. On the left side OB. A. MDXXXI. tells us that he died in [the beginning of] 1531.

4. The next shield belonged to Bishop William Stewart, Chancellor, son of Sir Thomas Stewart of Minto. He was also National Treasurer. Across the middle runs a fess or band of three stripes, divided into squares. This is the device of the Stewarts. Some think that the fess represents the counting-board, on which pounds, shillings, and pence were represented by small thin counters, which were laid down in rows, and gathered up and counted to find the amount of an account. Before the use of our figures, numbers were represented by letters, and these could not be added up mentally. But others think that the fess represented a white and blue linen towel chequered in the loom, which the steward carried on his arm when serving the King's table, to wipe his birehen platter after each course. Above the band there passes diagonally a riband with scalloped edges. Above the shield there is a mitre between the bishop's initials w.s., and on the left side OB. A. MDXLV. tells that he died in 1545. Below is the motto :— . . . IT VULNERE VIRTUS.

5. On the second buttress there is a large shield bearing the Royal Arms with helmet, crest, supporters, collar of St Andrew, banners, mottoes, etc., and at the sides I.A. 4. R.—James IV., King. The collar of St Andrew, and the motto “Nemo me impune laccessit,” “no one shall annoy me with

impunity," are proofs that the stone is later than the time of James IV. Kennedy ("Annals") says it was originally above the outer gate of the college in the west wing.

6. On the wall of the chapel is a shield bearing a horizontal band across the top and below it a St Andrew's cross, two bars crossing diagonally. Above are the letters H.B. for Hector Boece, the first Principal of the College, and at the sides is the legend O.B. A.D. A. MDXXXVI. He died in the year of our Lord, 1436.

7. On the third buttress is a shield bearing a lion on his hind legs cut through at the neck, loins, and legs. Above the shield are the letters R.M. for Robert Maitland a benefactor of the University. He died in Aberdeen in 1579, as is told by the inscription DEC. ABD. A. MDLXXIX. for "Decessit Aberdoniae Anno 1579." The dissection of the lion's body is a poor play on the name Maitland. It assumes that the name had been in old Scotch Mutiland, meaning mutilating, a derivative from a Latin word "Mutilandum" with this meaning.

8. On the wall is an oval shield divided into four quarters, of which the first and fourth have three cinquefoils or strawberry flowers, for Fraser, a strawberry being "fraise" in French; and the second and third have three crowns. Above are the letters I.F., the initials of the name of James Fraser, a benefactor of the college, and below is the date A.D. MDCCIV., for the year in which he built a new library, completed in 1725. Below the shield is the inscription:—

VIR NUNQUAM SINE LAUDE NOMINANDUS IACOBUS FRASERIUS
I.U.D. UNICUS MUSARUM FAUTOR ALMAM MATREM ABERDONESEM
AEVI INIURIA PARTIM LABANTEM PARTIM IACENTEM SOLUS
FERE RESPEXIT EREXIT PROVEXIT.

"A man never to be named without praise, James Fraser, LL.D., an unparalleled patron of the Muses, seeing his Alma Mater of Aberdeen partly ready to fall, partly lying in ruins, raised her up and advanced her."

James Fraser of Chelsea, Doctor both of Canon and Civil Law (*juris utriusque doctor*) librarian to the King, rebuilt the library and gave very liberal help to rebuild the south side of the Quadrangle. He also founded two Fraser bursaries at King's College, one in divinity and one in philosophy.

9. On the fourth buttress there is another Fraser coat-of-arms: but it has two harts for supporters, a baron's coronet above, and a hart's head for a crest, with part of a

motto. It must be for a member of the Lovat family, some of whom studied at King's College in the seventeenth century.

10. On the fifth buttress there is a shield to the memory of Colonel John Buchan, a younger son of Auchmacoy, a contributor to the fund raised for building Cromwell's Tower in 1658. It showed when new two lions' heads torn off at the neck above, and a wheat sheaf below, for the name Buchan, within an embattled border; and for a crest a demi-lion holding a branch with leaves. Above are the letters C.I.B., and the motto:—" [Fortior] quo [mitior]"—"The gentler the stronger."

11. Before 1658, there had been a buttress at the south-east of the apse, and on it a shield bearing three boars' heads torn off, and over the lowest a chevron. Above are v.g., the initials of Bishop William Gordon, Chancellor of the University, with a mitre between them. This shield had been transferred to Cromwell's Tower. It is now above the entrance to the sacrist's residence.

12. Within the ehapel there is, above the door of the choir, a board brought from the public hall in 1823, showing a shield with the arms of Bishop Elphinstone, surmounted by a mitre. Below is a flower vase, with three fishes crossed triangularly, and containing a lily, whose stems rise up round the shield and the mitre. Beneath, a scroll bears the motto:—" Non Confundar," "I shall not be confounded," expressing confidence in the Day of Judgment.

13. In the floor of the choir is the tomb of Bishop Elphinstone, the founder, covered by a black marble slab of Galway marble. The tomb is in the place of honour in the ehapel, immediately before the place where the high altar stood. An effigy of the bishop in brass, gilt, lay on the slab, which was either supported or surmounted by twelve small statues in brass, gilt. The effigy and the figures were stolen, Gordon says, long before 1661. In 1909 it was resolved to restore the tomb of the bishop to its original state.

14. In the apse of the chapel inside there is a shield bearing a crescent at the top, a chevron with an eye in the middle and a cinquefoil at the bottom. On a scroll above there is the motto:—" CONFIDO SED CAVEO"—"I trust but I am on my guard." Below there is an inscription headed m.s.

NIUM TOTIDEMQUE ANNIS ITIDEM THEOLOGIAE PROFESSOR ECCLESIAE IN AUCHTERLESS UNO ANNO INTERSTITE PASTOR MULTA IN TAM BREVISSIMO CURRICULO DIDICIT PRAESTITIT DOCUIT COELI AVIDUS ET COELO MATUS RUS OBIIT ANNO DOM. 1678 AETATIS SUAE 28 ET HIC EXUVIAS MORTALITATIS POSUIT.

This tells us that Henry Scougal, son of a revered father, Patrick, Bishop of Aberdeen, was four years Professor of Philosophy in King's College, one year minister of the Church of Auchterless, and four years Professor of Theology in King's College. He died in 1678, aged 28, and lies buried in the chapel. There is a tombstone to the memory of his father, Bishop Patrick, in the west end of the south aisle of the Cathedral.

In the floor of the chapel there are four tombstones with coats-of-arms.

15. A stone to the memory of John Cruickshank. It has a shield bearing three boars' heads erased. Above there is an esquire's helmet. At the sides are the letters I.C. Round the stone is the inscription:—

JOANNES CRVCSCHIANIVS DOMINUS TILLYMORGEN GENERIS SPLENDORE RELIGIONIS PURITATE AC FIDEI INTEGRITATE CLARUS OBIIT 21 NOVEMB. A.D. 1604 NUNC VIVO ET VIVAM DAT SEMPER VIVERE CHRISTUS MORTE SUA TANDEM SIT MIHI VITA MORI IESOUS ANASTASIS KAI ZOE.

John Cruickshank, laird of Tillymorgen, died 21st November, 1604.

16. A stone to the memory of Peter Udney. It has a shield bearing a stag's head erased among the branches of an upright tree between two greyhounds leaping in opposite directions. At the sides are the letters M.P.V.S., for Magister Petrus Udnus Sub-Primarius or Peter Udney M.A. Sub-Principal. An inscription round the stone tells that he died 24 April, 1601.

17. A stone to the memory of Andrew Strachan. It has a shield bearing a stag lying down, with A.S. at the sides. An inscription round the stone tells that he died April 3, 1604, aged 20.

18. A stone to the memory of Walter Stewart, Principal of the University. It has a shield bearing the Stewart chequered fess in the middle, with two antique crowns above and one below, and a cross at the top of the shield. The inscription is nearly worn off, but the name and the office in Latin are legible—VALTERVS STEVART PRIMARIVS.

ST PETER'S HOSPITAL—THE KIRKTOWN.

In “*Registrum Episcopatus Aberdonensis*,” I. ii. there is the Foundation Charter of a hospital for infirm brethren of the Cathedral, founded by Bishop Matthew Kynninmond (1172-1199) in honour of St Peter, the chief of the Apostles. Among the witnesses to the charter were famous men:—Gillechrist, Earl of Mar; Fergus, Earl of Buchan; Norman, Constable of Inverurie; and William of Slains. The inmates were to pray for the soul of King William, the souls of his predecessors and successors, and for the souls of the founder and his predecessors and successors. This implied that there should be a chapel where the inmates would say their prayers in public, and also a rector or master to rule the hospital, conduct the devotions of the brethren, and look after the revenues of the foundation. The hospital is described as being in the territory of Aberden, and hence the church of Aberden, mentioned in the bull of Adrian IV., must be the church of the hospital of St Peter, as all the other churches in Aberdon and Aberden are enumerated in the bull.

The hospital stood on the east side of the street called after it, Spital, within its own grounds, which corresponded to the upper part of St Peter's Cemetery and contained besides the hospital, the chapel and a burying-ground, the nucleus of the modern large cemetery. The entrance to the hospital yard was by St Peter's Lane, on the right hand side of the gate. The part of the cemetery on the left side is a modern addition. Above the gate is seen a sandstone slab, to which is attached a metal plate, bearing three moors' heads, the arms of Moir of Scotstown, who became proprietor of the ground after the Reformation.

Bishop Matthew made over to the hospital a large part of the mensal revenues of his office—that is, of the provision for his table. Bishops had often to entertain royal and noble visitors who were passing their way, and this required that the office should have attached to it ample means of exercising hospitality. But these revenues were not personal to the Bishop, and could not properly be alienated without the consent of the Dean and Chapter of the Cathedral. Nevertheless, Bishop Matthew without

this consent being sought gave to the hospital, besides the ground in which it was situated, much land lying on the west side of the Chanonry ; tithes of his meal, malt, and fodder rents ; and tithes of the grain, salt, iron, flesh, fish, and all kinds of food bought for the use of his house ; and also some second tithes.

Nothing is on record concerning the hospital till 1427, when Bishop Henry came to know that the masters of the hospital had for forty years and more appropriated to their own use the revenues of the hospital, to the entire neglect of the purpose for which it was founded. He recalled the foundation of the hospital and took back its revenues to the table of the bishop, where they seem to have been needed. The hospital was now utterly done away with ; but for the performance of the duties of the brethren two perpetual chaplainries were instituted, and two chaplains were appointed, who, in addition to doing duty in the cathedral in reading and singing, were to officiate alternately on Sundays in the chapel of the suppressed hospital. The chapel seems to have been erected into a parish church, for the chaplains were to administer the sacrament of the Church to the parishioners and infirm people dwelling near the chapel. This could not mean to all the parishioners of St Machar, for the chaplains were held bound to provide at their own expense bread and wine for the eucharist and wax candles for the altar. For their support, the chaplains got each a manse and garden in the Chanonry, with ten marks each from the altarage of St Nicholas, which belonged to the Bishop officially. He gave them also :—“totam villam ecclesie infra quam predictum hospitale situatur,” the rents of the whole kirk town within which theforesaid hospital is situated.

Here we have the solution of the mystery which has hitherto enveloped the site of the Kirkton, Kyrkton, or Kyretton, which is occasionally mentioned in the Registrum. The church was the chapel of the hospital, and the Kirkton had contained about half a dozen houses and gardens on the east side of the street passing the hospital (Registrum, I. 226).

Cosmo Innes in the preface to the Registrum says of Bishop Henry :—“He converted the revenues of St Peter's Hospital, a foundation of Bishop Matthew, to the maintenance of his episcopal table and support of two chaplains in St Peter's chapel in the Cathedral, a questionable transaction which was sanctioned by Pope Eugenius IV.

in 1435." This is not correct. Innes had been misled by the docquet on the charter, which says:—"De translatione altaris Sancti Petri in duas perpetuas capellanias," that is "Concerning the transference of the revenues of the Church of St Peter into two perpetual chaplainries." But this title is incorrect, for it was the revenues of the hospital that were turned to a new use, not the revenues of the chapel. But Innes thought that the altar meant the place where the priest who was master of the hospital officiated, and thought that the two new chaplains were to officiate at the altar of a chapel in the cathedral. The Chapel of St Peter's remained in the Spital or Kirkton, and the Pope's sanction does not mention the appropriation of the revenues to the bishop's table. If this were done it had been without the Pope's sanction, which was not necessary, since the revenues had been unconstitutionally alienated from it at first.

In 1446 there was a dispute between the bishop and the chaplains regarding the march between their respective lands near the north port of the Chanony. It was settled by an assize of the "eldast and worthiest of the said lands and of the quintre by (near), togidder with ane certane of the worthiest burgen' of Aberdene." Sir Alexander Forbes, lord of that ilk and sheriff-depute of Aberdeen, was chosen judge by the parties. The proceedings of the assize are recorded in a venerable document written in Scotch before Caxton began to print (*Registrum*, I. 244). The extent of land seems to have been great, the march being defined as extending from the Chanony port to the height of the hill, presumably to Hilton.

These notices of the hospital of St Peter and its chapel are trustworthy, and all documents clashing with what has now been stated must be forgeries. This condemns charter No 2 (*Registrum*, I. 3) professing to date from 1136, for it mentions the church of the Kyrkton, which could not have been in existence before 1172, when the founder of the hospital began his episcopate. It hits Adrian's Bull (I. 5), dated 1157, which mentions the church of the Kirkton under the name of the Church of Abbirdein. It hits also charter No 5 (I. 7), dated 1163, which mentions the church of the Kyrkton. The long document, titled "Statuta Ecclesie Aberdonensis," (II. 38), in which the hospital and the Kirkton are mentioned, cannot be a genuine, authentic document, written, as it professes, in 1256. In describing the

prebends of the cathedral and their benefices, it says:—“To the dean is assigned the whole church of the Kyrkton, . . . with all the tithes of the hospital of St Peter which it possessed at the time of its institution, to be employed for its own uses and those of the sisters living there.” The author of the “Statuta” supposed that the hospital was for women; he believed that the church, as he calls it, had revenues of its own; he did not know that the chapel or church was part of the hospital establishment at first and afterwards took its place, but remained on the same site; and he assigned to the dean in 1256 the revenues of the hospital, although the original foundation was not changed till 1427, nor the transformation sanctioned by the Pope till 1435, and the chaplains were standing up for their rights in 1446. The “Statuta” is ante-dated a hundred and ninety years at least, and probably the document was drawn up when the Reformation was coming on. It is clear that the author of the “Statuta” trusted to the genuineness of the first two charters, which being forgeries it follows that nothing based on them is reliable; but the author has made false statements of his own.

A copy of the bull has appended to it a note stating that it was read in 1359 at a council of the Scotch Church held in the Blackfriars’ convent. This statement is palpably false for the Church of Aberdeen had not then come into existence. The statement had been intended to lead up to a forged charter relating to second tithes, said to have been granted by David II. in 1360.

Three of Aberdeen’s greater historical lights have had their lustre dimmed by making statements based upon “Statuta.” Orem, writing in 1744-5, says of the cathedral town:—“This ancient city was at first a village of four ploughs and had a little kirk where the Cathedral now stands, called the Kirk of the Kirkton, dedicated to St Machar.” This is in Boece’s style—clear, definite, and circumstantial; but it is as fictitious as any statement in Boece.

Kennedy, writing in 1818, says in his “Annals”:—“When the seat of the bishopric was removed to Aberdeen in 1136 the hamlet which is now known as Old Aberdeen was part of the patrimony of the church and distinguished by the name of Kirkton of Seaton.” This is the first occurrence of the phrase Kirkton of Seaton.

One is sorry to find the “Book of Bon-Accord” saying:—“The burgh now [1839] called Old Aberdeen was originally

named Old Town or Kirktown of Seaton" (p. 36). Its author was wont to go to the root of a matter, and nothing could be more certain than that if he had taken up the history of Old Aberdeen he would have exploded the Kirktown of Seaton.

In 1506 we find one of the chaplainries called a rectory, which implies that it was a parish church, with a district assigned to it. The boundaries of the parish of St Peter's or Spital were, on the north, a line going westward from the sea along the south side of the houses and grounds included in College Bounds and ending at Firhill Well; on the west, the foot-path from Firhill Well to Sunnybank Road, and thereafter the Spital burn to the boundary of the royalty; on the south, the boundary of St Nicholas parish and the royalty, keeping straight to the sea from the Gasometer.

On the site now occupied by The Northern Bowling Green in King's Crescent once stood the Leper-House. In "Description of bothe Touns of Aberdeen," James Gordon, writing in 1661, says:—"Such as goe out at the Gallowgate port towards Old Aberdeen, haff way almost, may see the place wher of old stood the Lepers' Hospitall, called the Sick-house, hard by the way syde." Near it was a chapel dedicated to St Anna, patroness of lepers. The chapel was built in 1519, but by 1661 both buildings were gone, and the name was scarcely known. The drawing of the house in Gordon's map merely shows the site of the hospital, not its design. Spital hill, on the west side of the road, was formerly called Mount-hooly. This name is compounded of two Gaelic words, "monadh," hill; and "coille," also meaning hill. The first part had been prefixed to the second to explain it after "coille" had been corrupted into "hooly." There are several places of the same name in Aberdeenshire. The name is not appropriate for the part of the road between the Gallowgate and Jute Street.

The Firhill Well issued from a hill of sand called the Little Firhill to distinguish it from the Big Firhill, called also Broomhill and Hermitage Hill; but the removal of the sand hill for building purposes stopped the flow of the spring, and though the Town Council substituted Dee water at a cost of £70, there is no sentimental feeling attached to it, and there is no strife for the water now, as there used to be for the chalybeate water, on Sunday mornings in summer.

Before the Reformation the rectory of St Peter's had

been given as a prebend to an official of the Cathedral called the sub-chantor, whose duty it had been to train and lead the choir. It is a wilful mistake on the part of the author of the "Statuta" to say that the revenues of St Peter's were assigned to the dean of the cathedral.

At the Reformation the lands which had originally belonged to the hospital and afterwards to the chaplainries fell to the Crown and were given by James VI. to the University. In 1574, he also gave the University the benefice of the sub-chantor in the Cathedral, which was otherwise called the rectory and vicarage of Spital ("Fasti Aberdonenses," 129). The parish of Spital was but small and not populous, and in 1583 James re-united it to St Machar, the mother parish, and ordered the people to attend the cathedral as their parish church. He also ordered the University to demolish and take down the ruinous walls and timber of the Kirk of Spital and to employ them for the repair of the Church of St Machar. It is given in the order as a reason that the Church of Spital was abused to superstition and idolatry ("Fasti," 131). This means that the people continued after the Reformation to go into the church and say prayers as they had done before.

In 1618, Episcopacy was restored, and by Act of Parliament it was ordered that the Sub-Principal of King's College, who held the benefice of Spital, should be sub-chantor in the cathedral. This arrangement came to an end when Presbyterianism was restored; but it was revived in 1633; and the Sub-Principal again became the sub-chantor, with a seat in the chapter of the cathedral ("Fasti," 141-147).

In 1661 Gordon's map shows the Church of Spital as entire, about fifty yards from the street, but the text of his "History" says that only the ruins remained then. The foundation of the Church of St Peter is still visible in St Peter's Cemetery and the hospital is commemorated by the street called Spital.

MEAL MILLS.

A MEDIÆVAL MILL.

The Upper and Nether Mills are figured in Gordon's Map of Aberdeen, 1661. They are very small buildings, but perhaps they are merely conventional representations of houses. We have, however, in "Antiquities of the Shires of Aberdeen and Banff" (III. 109,) a copy of "The Set of the Mylne of Newburgh" in 1512, which furnishes a minute description of the working parts of a meal mill at that time.

The chaplain and agent of the proprietor had written to the proprietor that the mill required to have a new stool for the mill-stone and a new house, which it fell to the proprietor to provide. This he agreed to do, and the tack or lease says :—

I for my pairt sall mak and wphald the haill stule, the spout and the troich alanelry; and the myllar sall mak and wphald for his pairt all uther graith and gangand geir that pertenis to the said mylne, guid, stark and sufficient, batht quhelys, stanis, trynnillis, irne and tymmyr ganis for the ganging of the said mylne, and sall wphald the samyn all the tyme that he is wytht the said mylne. And forthir I for my pairt sall causs the sukkyne of all the barony to cum to the said mylne. And alsua sall causs the sukkyne till wphald the hoppar, to draw stane and tre, and to big the mylne houss and dur tharof, and red the dame as it nedis. And thir thingis above written the said men of the barony sall do that all sukkyne [do] gif it be the use of the enntre and thar det till do of lawe. And in the meyntym the myllar sall big apone my eost the said mylne stule and all vther thingis that pertenis to my pairt. And na tre to be put in the said stule bot new aik, a large fute of the squar quhen it is dychtit. And alsua he sall big a mylne houss of new tymmyr, twa cupillis xxiiii. fute lang and xvi. fute wyid, of the quhilk houss I sall mak the first eost quhill I get pament fra the men of the sukkyne and sielik I sall bring hame the stanis on their expensis. And quhat cost the said myllar makis in any thing that pertenis to my pairt or thar pairt that aw the sukkyne I sall allow that till him and his male (rent).

Besides the house, the stool, the water wheel, and other driving parts, there were, we see, only two millstones to

grind the corn, a spout to catch the meal, and a trough to receive it, out of which it was taken by the sifters. The sukkyne, or sucken, was the area from which the miller drew his business. He was entitled to have the milling of all the corn grown on his sucken, except what was required for sowing the next crop.

MILL OF MAIDENCRAIG.

In 1616 the Town Council resolved to build a mill at Maidencraig, four miles from the Cross of Aberdeen, for the convenience of the tenants of the town's lands in that neighbourhood. In a charter to the town granted by James VI. in 1617 the Denburn Mill is mentioned amongst others, which shows that the mill had been erected immediately after the resolution for its erection had been passed, and the name given to it shows that the name Denburn was not confined to the part of the burn within the royalty. The mill is also called, sometimes, the Den Mylne. It stands on the north side of the Skene road, and it takes its name from a steep, solitary rock rising up in the dam of the mill, a remnant left by the glacier that excavated the ravine in which the burn flows. Flour has to a great extent taken the place of oatmeal in our daily bread, and the working of the mill having become unprofitable it was given up. Meadhon in Gaelic means middle.

THE GILCOMSTON MILLS.

It has been already mentioned that at a time anterior to 1398, when the Burgh Records begin, the Denburn was diverted at Whitehall Place to drive the Upper Mill in St Nicholas Street, and to water the town. The Town Council had bought from the proprietor of the land of Gilcomston the right to use the water, but had not stipulated that they were to have sole use of it: there was therefore, nothing to prevent him from erecting a mill on his own land and taking the use of the water as it went past. This was done in 1513, greatly to the annoyance of the Town Council. The new Gilcomston Mill interfered with the town's monopoly of making into meal all the corn grown within the royalty and also on freedom lands which the burgh had retained in its own possession. But all that the magistrates could do was to threaten to exact

fines and double multure dues from the burghers' crofts and from town's lands within the freedom. The tenants of lands over which the burgh had no control were to be come at by being interdicted from getting any of the city refuse for their land if they ground their corn at the new Mill of Gilcomston. The grievance was removed in 1679, when the Town Council purchased the lands of Gilcomston with the mill. Probably it had thereafter been abandoned for a while, as we hear no more of a mill at Gilcomston for a long time.

Before 1661 a channel had been formed to divert water at the mill of Gilcomston to the head of the Spa Burn. This might have been done to give the litsters a supply of pure water when they needed it, or to drive another mill in opposition to the Mill of Gilcomston. The water ran in a brick-built drain and came out at the head of Spa Street.

In 1760 a Distillery Company was formed, who bought up a lint mill and its croft on the north side of Baker Street, near Gilcomston Well. In 1766 the company got permission from the Town Council to divert the water course coming from the Denburn to the south side of the street, and to change the distilling business to brewing malt liquors. A new company was formed, who erected extensive premises on the south side of Baker Street. They put in a great wheel and four pairs of millstones to grind malt, oats, barley, and flour. These remained till 1902, but distilling, brewing, and milling had ceased at Nether Gilcomston long before that date, the last work that the wheel did having been to drive a saw-mill.

By Taylor's Plan of Aberdeen we see that there was in 1773 a mill on the point where Jack's Brae and Leadsidge Road meet. In 1849 it came into the occupation of a family of Strachans, who have continued the business on an increasing scale and now employ steam and gas engines to supplement the water power obtained from the Denburn.

STONYTON MILL.

From Dr Alexander Cruickshank's "Vanishing Aberdeen" we learn that there was yet another meal mill driven by the Denburn. Below Stonyton Bridge, which crossed the Denburn in the line of Osborne Place a little to the west of Prince Arthur Street, a water course left the south side of the Denburn, and crossing Prince Arthur

Street conveyed water to drive a mill which stood about Albert Street, in the line of the lane on the south of Osborne Place. It ceased to work in 1830 and was removed in 1842.

PITMUCKSTON MILL.

This mill served the lands of Pitmuckston, and it had been in existence before 1661, when Gordon's plan of Aberdeen was made. It stood near the Dee on the west side of Pitmuckston Burn, near Allenvale Cemetery. The mill dam was on the north side of the road connecting Hardgate and Whinhill Road; but the mill itself was on the south side. It was driven by the Pitmuckston Burn, supplemented by the Polmuir Burn. The course of this burn has already been described. Before the Whinhill embankment was made it crossed the line of it from west to east; but it had been diverted to the south by a deep cutting, now converted into a sewer, the track of which may be seen on the west side of Whinhill Road. It crossed the railway, and passing through the north section of the cemetery entered the Pitmuckston Mill dam. This mill was still going after the middle of the last century, but all trace of it has now vanished.

BUCKSBURN MILL.

This mill belongs to the Burgh of Aberdeen. Its erection was ordered in 1616 along with that of the Mid Mill, Maidencraig Mill, the Gallowgatehead Windmill, and two Shorc Mills. It seems as if there had been a desire to have as many mills as possible included in the charter to be asked for from James VI., which was granted in the following year.

The mill is driven by the Bucksburn, which rises at Denhead of Cloghill, within half a mile of the source of the Denburn, and it terminates in the Don near Auchmill. In its short course of $3\frac{1}{2}$ miles it falls 350 feet and thus earns its name, which means the leaping burn, from the Gaelic word "boc," I leap or spring. The root accounts for the local name of the burn—Boxburn.

FERRYHILL MILL.

This mill dates from 1667, the year in which "The New Bridge" was made. People often wonder where this bridge

is. It was seen that there was sufficient fall for another mill on the Holburn after leaving the Lower Justice Mill if it could be diverted from Union Glen and taken farther south, through the North of Scotland Distillery, and across the Hardgate. This necessitated the formation of another bridge in addition to the one a few yards farther north at Union Glen. This is the New Bridge, which is not readily discernible now that the mill lade is covered up above and below the bridge, since there are no parapets on the bridge. Formerly, after crossing the Hardgate, the lade passed under the foot-walk of the road on the east side, and rounding the grounds of Willowbank entered Ferryhill Mill dam.

At first it was a meal mill, but after having been accidentally burned and standing long untenanted it was converted into a thread glove manufactory. Recently, in consequence of the formation of new streets, a difficulty arose in the disposal of the water after leaving the mill, and the water supply had to be withdrawn.

GORDON'S MILL.

On the south bank of the Don, near Hayton, stands a conglomeration of houses called Gordon's Mills. Upwards of a hundred years ago there was here a corn mill, driven by water obtained from the Don by a weir crossing the river. It ceased to be a meal mill long ago, and became a woollen manufactory. It is now a paper mill.

William Gordon of Gordon's Mills was wounded in the battle of Bridge of Dee, 1639 (Spalding's "Memorials of the Troubles").

LADY MILL, ETC.

In 1832, after the new Bridge of Don was built, a meal mill was erected on the Powis or Tile Burn on the east side of King Street. It continued to work till flour became as cheap as meal. Bread almost entirely ceased to be made from oatmeal, and many once prosperous meal mills have been given up. Among these was Lady Mill—so named from Lady Bruce, wife of Sir Michael Bruce. It has now been converted into a saw mill.

During the latter half of the last century many large meal mills have been erected within the city of Aberdeen. The Northern Co-operative Company's mill at Millbank,

Berryden Road, grinds oats for local consumpt and supplies its own sale shops. The others dispose of their meal in bulk, and most of it is exported to England.

SHORE MILLS.

In 1616 the Town Council ordered the construction of two mills to be driven by the influx and reflux of the tide. Probably they were to work in conjunction, alternately ; and the site may have been on the Trinity Burn above the harbour at Shore Brae. There is no doubt that mills could be driven in this way, and very many attempts have been made to utilise the illimitable power of the ocean in the rise and fall of the tide. Hardly ever have they been successful, and the Aberdeen Shore Mills seem to have been failures. There are three great obstacles to the economical working of sea mills. The hours of high and low water vary daily, and at unequal intervals ; the range of the tide, or the difference between high water and low water, also varies from day to day ; and there are four considerable periods every day during which the tide ceases to flow.

WINDMILLS.

There is evidence of there having been three windmills for making meal in or near Aberdeen. One is shown in Paterson's plan of the town on the west side of the Denburn and the north side of the Windmill Brae. Its site was probably on Union Street at the head of Bridge Street, and to it may have been due the name of the brae. Little, if anything, is recorded regarding this mill except that in 1501 the Windmill was let to William Buchan.

In 1602 the Town Council ordered the erection of a windmill for making meal at the Gallowgate Head. It was completed in 1605, and Gordon's plan (1661) shows the sails of a windmill on the north side of the stair going down from Seamount Place to West North Street.

In 1678 another mill was ordered to be erected. Its site is shown in Taylor's plan, 1773, as being 86 yards south of Windmill Brae, and it was on the east side of Windmill Lane. Traces of the windmill were still to be seen about the middle of last century.

As with tide mills, the operating power of windmills varies greatly in force and still more in direction ; but

nevertheless windmills can be worked profitably. In Holland they are in general use for meal-making, and low-lying meadows are drained by windmills with arms of enormous length, which pump water from one ditch to a higher, step by step, till it can be discharged into a river.

In Argentina maize meal is made for domestic use by pounding the grain in a hollow in the stump of a tree stuck in the ground, the worker using a big wooden pestle requiring both her hands to wield it effectively. But there are in that country many thousands of windmills constantly at work pumping water from large and deep wells into ponds or reservoirs for watering cattle.

ABERDEEN MEAL.

Finer grain for meal making cannot be grown anywhere in the world than that produced by the farmers in Aberdeenshire, and the meal offered for sale in Aberdeen cannot be surpassed in quality. The abandonment of innumerable small mills in the town and country has been followed by the erection of large establishments fitted with machinery which produces a perfect article. Before the grain is roasted in the kiln all foreign matters are extracted, and the quantity and variety of these strike the stranger with amazement. The shelling of the dried grain is perfect, and a "sid" is never seen among the meal. Formerly an article of food called "sowens" was made from the particles of fine meal which remained in the bosoms of sids sifted out of the meal. Now the machinery does its work so well that mealy sids are not obtainable, and sowens can no longer be made.

A change has also come about with regard to the use of the shells taken off the grain before it is ground. Formerly they were used to burn in the kiln; but though this use continues to some extent the shells are extensively used now for adulterating cakes for feeding cattle. They are not known to be used for this purpose in this country, but they are exported from Aberdeen, ground and unground; and it is at least possible that they may come back in cakes to be eaten on the farms where the grain they came from originally grew.

BRIDGES.

THE BRIDGE OF DEE.

Before the Bridge of Dee was built the main road to the south crossed the Dee by a ford at the end of the Hardgate, about Ruthrieston Terrace, and followed the bank of the Dee to the burn at Hildontree and then turned south. On the top of the hill there was a peat moss, through which the road passed. It was sometimes hardly possible to get through the moss, so the Town Council of Aberdeen got an Act of Parliament authorising them to improve the road and build a gate or port on the road, where all who used the road should pay toll for maintaining it.

The improved part was called the Calsay of the Cowie Month, but probably all that had been done to improve the road had been to give it a coat of loose gravel, for the road is frequently mentioned as being in a bad way.

The Ford of the Dee must have been dangerous in winter, and a bridge across the river was much needed. It seems to have been several times proposed. In 1384 John Crab, burgess of Aberdeen, gave to his son Paul by letter the lands of Kincorth, pledged to him for a sum of money lent to the Abbot of Arbroath. The letter said that if the Abbot repaid the loan and reclaimed the land his son should have part of the money for his own use and hold other £50 sterling on deposit for a bridge over the Dee. It said further that he gave his son an annual payment falling to him from the barony of Findon among the [Grampian] mountains for the use, work, and maintenance of the Causay of the Mounth and the bridge of Dee. It is not clear from the letter whether the bridge was already constructed or only to be constructed. Moreover, if the Abbot did not repay the money there was no obligation laid upon the son to give £50 for the bridge; and in 1392 Paul Crab disposed of the 40s. annuity to William Chalmers, Provost of Aberdeen, apparently without reference to the Causay of the Mounth or the Bridge over the Dee ("Registrum Episcopatus Aberdonensis," II. 286-287).

In 1459 the Town Council appointed Master John of Levingston, vicar of Inverugie, to be master of the work

of a bridge proposed to be built over the Dee. There is, however, no evidence that any bridge had ever been erected over the Dee near Aberdeen before 1520.

It is generally believed that Bishop William Elphinstone, who died in 1514, began the building of the Bridge of Dee. In his edition of Hector Boece's "Lives of the Bishops of Mortlach and Aberdon" Dr James Moir says in the Index:—"Dee, Bishop Elphinstone begins bridge over, 98." When reference is made to p. 98 we find that the text does not warrant this statement. It says that the last enterprise which the bishop took up was building the Bridge of Dee; and that in a short time he got ready very many [dressed] stones and pieces of wood, and as much rubble as seemed sufficient for completing a great part of the work.

Bishop Elphinstone died in 1514 and was succeeded by Alexander Gordon, who held office till 1518. Boece goes on to relate that in Gordon's time mention was frequently made of Bishop William's legacies for building the bridge, and that both his trustees and those who had come into possession of his property were called to account, but that nothing could be done at the time, seeing that Bishop Elphinstone had not selected a site for the bridge and that the public would not take any interest in the matter. It is therefore manifest that the building of the bridge had not begun before 1518, when Gavin Dunbar became bishop.

Boece relates that on Bishop Dunbar's entry into Aberdeen he was met by a procession of ecclesiastics and university men, one of whom addressed him in a long speech and urged him to complete the undertakings of Bishop Elphinstone, which had been lying in abeyance since his death, special mention being made of the Bridge of Dee. Boece says that the new bishop examined the preparations which had been made for the bridge and was seized with a strong desire to build it. He says, further that without long delay the bridge had been begun, the bishop contributing liberally to the work, and that at the time when he was writing (1522) a great part of the work had been done, with a good hope that the whole would be accomplished. The bridge was completed in 1527. It was therefore a scheme of Bishop Elphinstone, who made some preparations for the work but was not able to make a commencement and died without selecting a site. He left in the hands of trustees a large sum of money to be devoted to building the bridge. Nothing, however, was

done during the time of his successor, Bishop Alexander Gordon, and the whole work of constructing the bridge fell to be done by Bishop Gavin Dunbar.

As first constructed the bridge was 432 feet long and 16½ feet wide. It consisted of seven semicircular arches with five ribs. The ribs may be regarded as an indication that the bridge is not altogether solid masonry, but that, with the design of lightening the load on the piers and the haunches of the arches, internal longitudinal walls had been built, one at each rib, which necessitated the making the rib arches of longer and better stones than those where there are voids. The stones had all been dressed to their proper size and shape at the quarry in Moray from which they were taken, probably Covesea for the yellow sandstone and Lossiemouth for the whiter and harder. The stones had been conveyed to Aberdeen by sea in large boats, and up the river in smaller boats. Many carved stones bearing coats-of-arms and inscriptions with dates are built into the sides of the cut-waters between the arches. The oldest date, 1520, is on the north side of the southmost arch, and the most recent, 1527, is on the south side of the northmost arch, both on the west side of the bridge. The position of these dates shows that the bridge was begun at the south end and completed at the north.

INSCRIPTIONS AND CARVINGS.

At the south end of the bridge there is on the west front of the retaining wall a sun dial with some letters, of which

A.W. MR O. ... W.B. 1719.

can be made out, indicating that the dial was put up in 1719 by a man whose initials were A. W., and who held the office of Master of Kirk and Bridge Works in the city of Aberdeen. On the west side of the round pillar at the south end of the bridge, west side, is carved Bisohp Elphinstone's coat-of-arms, surmounted by a mitre and the letters W. E. At the bottom is the motto "Non Confundar," I shall not be confounded, referring to the day of judgment.

On the west side of the bridge there are at the south end of the first arch, reckoning from the south, the Royal Arms of Scotland, a lion rampant or standing on his hind legs, and at the north end there is:—

[CONTSRUXI]T 1520
 (Bishop's Mitre)
 (Dunbar Arms)
 SUB SPE
 (With hope.)

which tells that the first arch was completed by Bishop Gavin Dunbar in 1520. The bishop's arms are three lozenges, sometimes called pillows, two above and one below. The bridge might have been begun in 1520, as the first could easily have been built in one year.

On the west side, at the north end of the second arch, there is :—

ANNO DOM[INI] 1521
 G (Mitre) D
 (Dunbar Arms.)

This tells us that the second arch was built by Bishop Gavin Dunbar in 1521.

At the north end of the third arch, west side, there is :—

GAUIN[U]s . DUNBAR . ABERDONEN[SIS]
 EP[ISCOPU]S . IMPERII (for IMPERIO) . IACOBI .
 Q[UIN]TI . SCOTORUM . REGIS . ANNOS .
 DUO . ME . LAPSUM.
 REEDIFICARE (for REEDIFICARI) . FECIT .
 ORATE . P[RO] . EO.

The mistakes had arisen from the carver at the quarry not being able to read the inscription supplied to him ; or else the inscription had been recut when the bridge was repaired, 1719-23, and some letters had then been illegible. The final letter of ANNOS has disappeared, but it has left its mark. The letters N and M have been indicated in the inscription by the mark — above the letter preceding their place. This tells us that the third arch had been built but had fallen and had lain in ruins two years, and had been rebuilt by Bishop Gavin Dunbar by order (and at the expense) of King James V. In English the inscription reads :—

Gavin Dunbar, Bishop of Aberdeen, by order of James V. King of Scots, caused me lying fallen down for two years to be rebuilt. Pray for him.

The arch had probably been built in 1522, and it had been demolished by a spate which carried away the centres or wooden framework on which the unfinished arch rested.

This caused damage to the extent of more than a hundred pounds. It seems to have stopped the work till the King came to the help of the bishop, who was clerk of the Council and of the Register.

Below the inscription there is a whitish stone with the bishop's coat-of-arms, surmounted by a mitre, with the initials G. D. at the sides.

At the south end of the fourth or middle arch, west side, there is the inscription :—

SENATUS ABERDONENSIS QUI . PER
INTEGRUM ADMINISTRATIONIS
CURRICULUM . NE QUID INCURIA SUA
RESPUBLICA DETRIMENTI CAPERET
SUMMA OPE NITEBATUR . OMNES
ARCUS HUIUSCE PONTIS . IAM CQL
LABASCENTES . EX AERE AD PONTEM
SARTUM TECTUMQUE CONSERVAN-
DUM DEDICATO . INSTAURANDOS
CURABAT ANNIS DOMINI 1719,
1720, 1721, 1722, et 1723.

In English this is :—

The Town Council of Aberdeen, who, throughout the whole course of their administration, did their utmost to prevent the public welfare from suffering loss by their neglect, caused all the arches of this bridge, which had already begun to fall into decay, to be restored at the expense of the fund bequeathed for keeping the bridge in good repair, in the years of our Lord 1719, 1720, 1721, 1722, and 1723.

On the north side of the same arch another inscription reads :—

GAUIN[U]S . DUNBAR . ABERDONEN[SIS].
PONTIFEX . ME TRANS . DEE . FLUUIUM . FIERI.
IUSSIT . ANNO . D[OMI]NI . QUINTO ET .
UIGESIMO
SUP[R]A . MILLE[SIMU]M . ET . QUINGEN[TESIMU]M .
ORATE . P[RO] . FO
ANNO DOM[INI] . 1525.

In English :—

Gavin Dunbar, Bishop of Aberdon, ordered me to be made over the river Dee, in the year of our Lord five and twenty beyond one thousand five hundred. Pray for him.

In the year of our Lord 1525.

Beneath the inscription are the bishop's mitre and coat-of-arms.

At the north end of the fifth arch are the arms of Thomas Blaikie, surmounted by his initials T. B. The shield bears two wolves' heads above and three crescents below. The motto is:—"Virtute et Fidelitate," by manliness and fidelity. This shield had been registered by the Lyon King of Arms for a gentleman named Blackie, and Sir Thomas Blaikie had adopted it.

At the south end of the sixth arch, west side, are the Aberdeen arms:—Two leopards supporting a shield bearing three towers, two and one, each triple-towered, surmounted by a scroll with the motto "Bon Accord." Beneath there is a blackish blue marble slab with this inscription:—

ANNVENTE SVMMO NVMINE. HICCE PONS EX BENE
ADMINISTRATA PECVNIA, AD EVM CONSERVANDVM LEGATA,
TRECENTIS AMPLIVS ANNIS POSTQUAM PRIMVM EST EXSTRVC-
TVS MVLTVS DILATVS PENITVSQVE REFECTVS EST ANNO
M.D.CCC.XXXXI. ET M.D.CCC.XXXXII.

THOMA BLAIKIE CIVITATIS ABERDONENSIS PRAEFECTO	
GEORGIO HENRY	OPERVVM PVBLCORVM
GVLIELMO FRASER	DEINCEPS CVRATORIBVS
JOANNE SMITH	ARCHITECTO,
ALEXANDRO MACDONALD	REDEMPTORIBVS.
GVLIELMO LESLIE	

In English:—

By the blessing of God this bridge, by means of well-managed funds bequeathed for its preservation, more than three hundred years after its first erection was greatly widened and wholly repaired in the years 1841 and 1842, Thomas Blaikie being Provost of Aberdeen; George Henry and William Fraser, successive Masters of Kirk and Bridge Works; John Smith, architect; Alexander Macdonald and William Leslie, contractors.

In the years 1841 and 1842 the bridge was widened 11½ feet, making the total width 28 feet, at a cost of £7250.

On the south side of the seventh arch there are the initials G. D. for Gavin Dunbar above his mitre and coat-of-arms. Beneath is:—

ANNO D[OMI]NI, 1527.

and a bonneted crown above the royal arms of Scotland. At the cut-water there is a column of numbers intended to show the depth of water in the river.

On the south side of the seventh arch, east side of the

bridge, there is a shield, surmounted by a decaying bonneted crown, bearing the arms of John, Duke of Albany, who was Regent of Scotland when the bridge was built, and who had contributed liberally from the national revenue to the undertaking. He was the son of Alexander Stewart, second son of James II., who created him Earl of March, Lord of Annandale and of the Isle of Man. The shield is divided into four quarters, of which the first shows the lion rampant of Scotland, indicating relationship to the Sovereign; the second, a lion rampant surrounded by eight roses, for March; the third, three legs of a man with armour, joined at the thighs and bent at the knees, arranged triangularly and furnished with spurs, for the Isle of Man; the fourth, a broad band at the top, and a saltire or cross with diagonal arms, for the lordship of Annandale. Beneath the Regent's arms are those of Bishop William Elphinstone, the originator of the scheme of constructing a bridge over the Dee. His shield bears three boars' heads, two above and one within a chevron below. At the top are the initials of the bishop's name:—W. E.

On a buttress supporting the east side of the approach to the north end of the bridge there is a shield supported by two unicorns, and bearing the lion rampant of Scotland. Below there is a scroll, probably once bearing the motto:—"In Defens," though it cannot be made out now.

Beneath the royal arms are the letters G. D. for Gavin Dunbar, a bishop's mitre, the Dunbar Arms, and the motto:—"Sub Spe." Briefly stated, the history of the building of the bridge as told by itself is that the first arch was built in 1520, the second in 1521, the third in 1522, but having been carried away by a spate it lay in ruins two years. It was rebuilt in 1524, and the fourth arch was built in the same year, the fifth in 1525, the sixth in 1526, and the seventh in 1527.

On the east face of the bridge, above the centre of the middle arch, a stone bears A.D. 1722; above the next arch to the north there is A.D. 1721; above the next A.D. 1721; and above the last arch "Instauratus," (restored) A.D. 1720. These dates refer to a thorough repair of the bridge executed between 1718 and 1722.

Standing under the northmost arch nine ribs are seen, five old and four new, the new having been added when the bridge was widened in 1841-42. On the east side of the approach to the bridge at the north end there is carved

FLOOD MARK,
6TH AUGUST,
1829.

The inscription, however, is not readily accessible now since the formation of the skating pond.

When the bridge was newly built there was also erected a chapel, where travellers setting out on a journey might say prayers for a safe return. It seems to have been at the north end of the bridge, and so near the river that it obstructed salmon fishers engaged at their work, preventing them from passing under the northmost arch of the bridge. This led to a quarrel between the laird of Abergeldie, who had the fishing, and the Town Council, who were the guardians of the bridge.

When the bridge was completed, Bishop Gavin Dunbar wished to divest himself of the responsibility of maintaining it and requested the Town Council of Aberdeen to take possession of the bridge, offering at the same time to make over to them the estate of Ardlair, in the parish of Kennethmont, which belonged to the Cathedral. The Town Council did not refuse to accept of Ardlair with the burden of maintaining the bridge in all time coming, but they suggested to the bishop and the Chapter of the Cathedral that they should give them instead of Ardlair, which was far away, some other property such as Ruthrieston, more conveniently situated for being managed by them. However, they accepted Ardlair with the responsibility of maintaining the Bridge of Dee, and it remained in the possession of the Town Council till 1610, when it was sold and another property was purchased with the price.

RAILWAY BRIDGE.

The Aberdeen Railway, now part of the Caledonian system, was opened to Ferryhill in March, 1850. It crosses the Dee by a bridge of six arches, each formed of four cast-iron ribs resting on stone piers which rise to the full height of the bridge. The roadway is supported by cast-iron uprights resting upon the arched ribs. A seventh arch, similar to those over the river, permits the Riverside Road to pass under the railway, and four stone and lime arches carry the railway to Polmuir. The striking feature of the whole suite of arches is that they are on a curve with a radius of 2000 feet.

VICTORIA BRIDGE.

In 1868 a Harbour Act was obtained for the erection of the South Breakwater, the extension of the North Pier, and the diversion of the river Dee. These works involved the expenditure of a large sum of money, which mounted up to £500,000 before they were completed. Mr J. W. Barclay—the shoremaster—and others wished the Town Council to take in hand also the purchase of Torry Farm as an investment sure to be highly remunerative if a bridge were made for the new channel of the river, and they proposed that the bridge should be built before the diversion was effected. The Provost—Mr Alexander Nicol—and others, thinking they had enough in hand, objected to the purchase of Torry Farm, though not averse to building the bridge. The progressive party in the Council purchased half of Torry Farm in a somewhat irregular manner, litigation followed, the purchase was not completed, and the erection of the bridge was postponed indefinitely.

In 1871 Mr Harper offered to erect a foot-bridge of wire across the new channel at his own sole risk and expense, in return for a pontage of one halfpenny for every person who passed over the bridge within the first year after it was completed. It was feared that the structure would be too slight, and no favour was shown for this proposal. In the same year Mr Harper repeated his offer, proposing to erect a bridge fit to carry as many people as could find standing room upon it, for a pontage extending over two years or amounting to £1260; but nothing came of these proposals.

In 1876 thirty-two lives were lost in a ferry-boat accident on the Dee. This gave a stimulus to schemes for erecting a substantial bridge for wheeled conveyances and heavy traffic. The Land Association, who had purchased Torry Farm, offered £4000 to help with the bridge. Blaikie Brothers proposed a bridge with ribbed iron arches, to cost £17,500; Abernethy proposed one with iron lattice girders, to cost £12,000; and Andrew Gibb, lithographer, prepared a plan for a bridge of granite, which was preferred to the iron bridges. The designs were submitted to Mr Willet, C.E., who recommended Messrs Blaikie's bridge as being sufficient and cheap; but Mr John Fyfe of Kemnay was anxious to see a granite bridge put up, and he offered to build Gibb's bridge for £17,000. This

caused the three designs to be sent to Mr Edward Blyth, who recommended a granite bridge and gave plans and specifications. Mr Fyfe contracted to build the bridge according to these for £19,000; but before it was completed it cost £25,000, including preliminary expenses for plans and advice and unexpected difficulties with the foundation.

The bridge consists of five arches, 60 ft. 6 in.; 63 ft. 6 in.; 66 ft.; 63 ft. 6 in.; and 60 ft. 6 in. in width. It is 342 feet long and 40 feet broad. There are four piers in the river, each resting on three caissons which were intended to be sunk to 27 feet below the surface of the river, but owing to the nature of the strata under the river some of them were sunk to 42 feet. The caissons were sunk by weighting them with iron up to 120 tons; the interior was excavated and thrown out; a plug of cement was put in at the bottom to exclude water; and the interior was filled with concrete. Masonry was built upon the top of the caissons, and the three small piers were joined together above water by two arches, so that the bridge presents the strange appearance of two archways through each pier. This reduces the area of the bases upon which the bridge stands, but it has shown no sign of weakness notwithstanding the heavy loads it frequently has to bear. It is a beautiful bridge, but the coping is not "throated," and the piers are stained with iron oxide from the standards of the lamps upon the parapets.

The Aberdeen Land Association contributed £5700 to its erection, Mr Davidson of Balnagask gave £1000, Rev. Mr Morrice of Tullos gave £200, the Harbour Commissioners gave £1000 and the ground necessary for approaches, and the Town Council made up the balance by borrowing from the Bridge of Don Fund, which is under their management. Some of the Council's part of the cost has not yet been repaid to the fund. The bridge was opened on July 2, 1881, with a procession of the Town Council and others going in carriages from the Townhouse to the bridge. Before returning, the Council visited the old Bridge of Dee, which was also under their care.

OLD WOODEN BRIDGES.

In making the diversion of the Dee large oak beams were found beneath the surface at a depth of 9 feet. They

were about 18 inches square, and 10 to 20 feet long, and they were fastened together by wooden trenails. They were found in the old spill-water, 200 yards or more below the Craiglug. The old ferry was a little below the Suspension Bridge, and these beams may have been a landing stage for the ancient ferry-boats. Farther down there were found large blocks of dressed sandstone, apparently the foundation of a bridge. The blocks were bevelled on one side and clamped together with iron. There was no certainty that the beams and stones had any connection with one another. The stones might have been laid down in 1448, when the Town Council resolved to give £20 for 10 years to build a bridge, and employed Mr John Livingstone, vicar of Inverugie, to manage the work. Apparently the effort to construct a bridge then had not been successful.

In 1909 the remains of a wooden bridge were found near the head of Commercial Road, in making the trench for a sewer in South Market Street. Beams had been laid on stools either in the river or at the ends of the bridge.

RUTHRIESTON BURN BRIDGES.

After the construction of the Bridge of Dee the south road turned up the river side on reaching the end of the Hardgate, and the mouth of the Ruthrieston Burn had to be crossed. For the convenience of travellers the Town Council provided a bridge for crossing the burn. Even while the building of the Bridge of Dee was in progress there seems to have been a bridge on the burn. The 6-inch Ordnance Survey map shows at the burn mouth:—"Plank Bridge, 1523."

Though it is very likely that there was a bridge even then, or at latest in 1527 when the Bridge of Dee was completed, the first bridge over the burn mentioned in books is one erected in 1541. There had been a flood in the river in the previous year, and some damage had been done to the Bridge of Dee; whereupon the Master of the Bridge Work was ordered to go and inspect the bridge and provide for its safety. Considerable repairs had been necessary, and a large quantity of materials had been provided. After the work was completed some things were left, which the Town Council thought might be utilised in erecting a bridge over the burn. It was found, however, that having been left unguarded these had been

carried away. An entry in the Burgh Records, 7th March, 1541, says:—

The haill Counsell ordains the maistris of the brig wark to byg ane bryg of tre (wood) our the Potburne on this side of the brig of Dee, and to gett and by al thing necessar thairfore and ordains him to cause raise ane gravatour (officer) to course (search) for all stuff sic as lym, stanis, tymmer, and jrn (iron) taken away fra the brig wark.

This would indicate that the bridge was to be sufficient for riders and foot passengers, and to be constructed by building two walls of stone and lime at the sides of the burn to support logs of wood, upon which might be laid cross bars to form the roadway of the bridge.

There is not a pot in the burn or in the river near the burn mouth, but there was a marsh where the Skating Pond is. "Poll" in Gaelic means a marsh or a slow burn and perhaps the name should have been Pollburn.

In 1693 it had become necessary to erect a new bridge, and it was built of stone and lime, with three arches, at the expense of the Bridge of Dee Fund. The bridge is still standing though it has probably been much altered in the course of repairs at various times. Though no longer necessary since the formation of Holburn Street it is kept in repair as a memorial of antiquity. Having been erected at a time when wheeled conveyances were hardly known the bridge is very narrow and has no parapets now, though it may once have had. In the two spaces between the arches there are shields bearing coats-of-arms carved on blocks of sandstone; but they are now so much defaced by stone throwing that it is quite impossible to make out anything on the shields or a letter of the inscriptions on the stones, though it is well-known what was once upon them.

The bridge was completed in the Provostship of Robert Cruickshank of Banchory, and though he contributed nothing to the cost he presumptuously caused a stone bearing a shield with three boars' heads cut off at the neck to be built into the east face of the bridge. These arms had been registered by some person of the name of Cruickshank and, though the Provost had no more right to take his neighbour's coat-of-arms than his coat of cloth, he passed them off as his own. This might have been allowed to pass unnoticed; but Cruickshank made himself obnoxious to his fellow Councillors by getting himself elected Provost several years in succession, and by putting

up his son-in-law as his successor in the office. In 1698 the hostile feeling of a majority of the Council was shewn by the following entry in the Register of the Council :—

The councill, finding that when the Bridge of Ruthreston was perfyted Robert Crnickshank of Banchorie, being then [1693-4] provost, he did clandistenly cause put up his armes in the said bridge without any act of councill, albeit he contrabute nothing for building thereof, and that the same was begune and near ended in Provost Cochran's time [1691-2], and was builded on the money of the Bridge of Dee, doe therefore appoint the said Robert Cruickshank's armes to be taken down and to be given to him, he paying the pryece thereof, and appoints the Mr of Kirk Work to cause put up in the place where the said armes stood ane handsome cut stone with the following inscription thereon, viz :—

SENATUS ABREDONENSIS HUNC PONTEM IMPENSIS EX AERE
AD PONTEM DEE SPECTANTE, EXTRUENDUM CURAVIT, 1693;

which means :—

The Town Council of Aberdeen caused this bridge to be built with money from the Bridge of Dee Fund, 1693.

The Provost refused to pay anything for the stone, and Morayshire sandstone not being abundant in Aberdeen the inscription was carved on the inner end of the old stone, which was then turned outside in. The Provost long survived the affront, and the hostility to him having died out the Town Council of 1705 ordered the stone to be turned again to show the arms, and an inscription to be carved below them stating that Robert Cruickshank of Banchory was Provost when the bridge was built. This was done, and the stone now shows at the top a closed helmet with a mantling called a lambrquin thrown over it, a shield in the middle, and a place where there had once been an inscription beneath. In 1877, when by order of Miss Duthie of Ruthrieston the bridge was repaired and paved to preserve it from decay, an opportunity was given of inspecting the inner end of the stone and it was found to bear the inscription ordered by the Town Council in 1698.

In 1705 the Council also ordered another stone to be put up, bearing the same Latin inscription as had been put on the other stone in 1698. This second stone bears a shield supported by two animals which no doubt once represented the leopard cats of the Aberdeen arms, but the stone is so defaced now that the resemblance to cats is

not perceptible. Above the shield may be seen the end of a scroll which once bore the motto "Bon-Accord." The triple towers on the shield cannot be made out, and though there is a space below it where there had been an inscription it seems rather small for what the Town Council ordered to be put on the stone. Probably the stone with the arms of Aberdeen had been built into the bridge at first, and only the inscription or part of it had been added in 1705.

The bridge had been designed to be a showy piece of work. One of the three arches would have sufficed to let through all the water of both burns.

When the Turnpike was made a bridge was built over the Ruthrieston burn. Its position is shewn by the parapet wall on the lower side of the road. A fair used to be held annually at this bridge.

HOLBURN BRIDGES.

Paterson's map of Aberdeen, 1746, shows two bridges near the Justice Mills on the Hardgate—one over the Holburn or Ferryhill Burn, called New Bridge, and another a few yards south over the lade going to Ferryhill Mill. The latter dates from 1667 (See Ferryhill Mill), and for a time it also had been called New Bridge. In all there had been three bridges of this name if maps can be trusted. Milne's map, 1789, shows the old Countesswell Road beginning at what is now Holburn Junction and crossing, first, the lade to the Upper Justice Mill and, secondly, the Holburn in Union Glen, farther up the burn than Holburn Street, by a bridge also called New Bridge which, therefore, must have been a later erection than the new bridge on the Hardgate. The upper part of the Countesswell Road is now obliterated, but from Union Glen to Great Western Road it still exists under the name of Cuparstone Row. From this lane westward it coincided with what is now Great Western Road.

In the early part of last century Union Street was formed, but it did not extend farther west than Bon-Accord Crescent. The houses in Union Place—now part of Union Street—faced Justice Mill Lane on the south, and gardens and fields extended behind them to the north. In the early part of last century Union Street road was extended to Holburn Junction, and thence a new road, now Holburn Street, was made by the Town

Council to the Bridge of Dee. It crosses the Justice Mill lade, and, a little farther on, the Holburn by a bridge now called the South Bridge. Broomhill Road began at Fonthill Road, and when the new South Road was made to the Bridge of Dee it cut Broomhill Road diagonally.

There was also a bridge over the Holburn near its mouth. This burn had to be crossed by those who crossed the Dee by the Craiglug Ferry. Recourse was had to the Bridge of Dee Fund for the means of erecting the Ferryhill Bridge. The ground near the mouth of this burn has been altered so much by the formation of the railway and the diversion of the Dee that its site could hardly be pointed out now.

BRIDGES ON THE DENBURN.

Of the many bridges over the Denburn, the first mentioned is that at the west end of the Green, which gave entrance to the town from the south. It is said in the Chartulary of St Nicholas (II. 54) in the rental of the altar of the Virgin Mary in St Nicholas, drawn up in 1444, that John Stokar had lands in the Green beyond the bridge. The Green had at that time comprehended the level ground on both sides of the Denburn, above and below the bridge. The bridge is mentioned again (Chartulary, I. 161) in a charter about a hundred years later in date, where it is called the Pow Brig. Pow means a burn, and Pow Brig is the Burn Brig. This bridge seems to have been something in the style of the bridge now occupying its place. Probably it had been constructed by raising two piers of masonry at the sides of the burn and laying on them trunks of trees. In 1565 the Town Council resolved to have a new bridge with an arch of stone (Burgh Recrods, XXII. 458) but it does not seem to have been erected till about 1587, for in 1586 they resolved again to have a bridge of "estlair" (ashlar). This resolution seems to have been carried into effect. The following entry occurs in 1587 in the Aeeounts of the Master of Kirk and Bridge Works (Chartulary, II. 389):— "For berin of ane auld tre fra the bow brig to the Kirk quhairof I causit mak ane sett in the Kirk, xvij d." Here we have mention of the material of the old bridge and the bow or arch of the new.

In 1610 another bridge, this time of two bows, was ordered to be constructed of outlier stones, that is of iee-

transported blocks projecting from the ground in the district round the town. The money was to be taken from the rents of the estate of Ardlair, which had been mortified for upholding the Bridge of Dee. Gordon's account of the city, 1661, shows that the bridge had actually been erected. Sir Samuel Forbes in his account of Aberdeen says that the bridge had three arches. This seems to be a mistake, for in 1746 the Town Council ordered the bridge of two arches to be removed. The central pier obstructed the flow of water, causing the burn to overflow in spates and flood the west end of the Green.

In 1747 the new bridge was built, and it was the Bow Brig often mentioned in the later records of the town. It had a wide span, and there were two pillars with lamps at the middle of the bridge. When the lower part of the Denburn was covered up in 1851 the bridge was useless, and it was removed; but the stones of the arch were numbered and preserved, and they were afterwards used to form one of the arches under the footwalk on the east side of Union Terrace. One of the pillars was preserved by Dr Alexander Walker and now stands in the rockery at the north end of the Terrace Garden. A chain hung on it suspends a fragment of the famous bell called Lowrie, smashed when the steeple of St Nicholas Church was burned in 1874. The covering up of the Denburn in 1851 also rendered unnecessary a wooden foot-bridge which crossed the burn at the end of Wapping Street, nearly in the line of Guild Street.

When the Denburn Valley Junction Railway was made in 1867 the connection between Windmill Brae and the Green was obstructed and the present high level foot-bridge was erected, but traffic through the Green has been greatly diminished because horses and carts cannot pass that way.

In the century 1700 to 1800 several bridges were erected over the upper part of the Denburn. About the middle of the century Collie Bridge was built at the west end of Blackfriars Buildings. Skene Street was not then in existence, but when it was formed it came to this bridge. A continuation of the Hardgate went along the line of Summer Street, past Gilcomston Chapel, and crossed the Denburn by a bridge built in 1745 to give access to Gilcomston Mill. At that time Rubislaw Road occupied the place of Skene Street, but instead of holding on to Collie Bridge it turned down Skene Row and crossed the Denburn by a bridge at the upper end of Hardweird to reach the Mill of Gilcomston. This bridge was built

by the Town Council in 1754. Summer Lane was the old name of Summer Street. Summer represents the Gaelic word "sughmor" (gh silent), meaning wet.

Later than these came a small bridge at Mackie Place, still standing, giving access to pleasantly-situated residences on the north side of the burn below Esslemont Avenue. Farther up there was a farm steading called Stonyton on the north side of Rubislaw Road, where No. 42 Carden Place now is. A road from Stonyton crossed the Denburn by a bridge above Prince Arthur Street, called Stonyton Bridge, and passing North Rubislaw Farm steading it joined the old Fountainhall Road, now Desswood Place; but the old Fountainhall Road turned up Blenheim Place, past Fountainhall House. The Denburn is now covered at Stonyton.

In 1758, the Town Council ordered the Denburn to be straightened. This was done and a level green was formed on the west side of the burn, to which access was given by two Chinese bridges of brick like the bridge of the willow-pattern plates, though this pattern was not designed till 1777. These bridges had no parapets and were reckoned somewhat dangerous; therefore when they fell into decay they were not renewed, and a more substantial wooden bridge was erected at the foot of Mutton Brae. This gave access to the lower end of Skene Terrace. Denburn Terrace was "blind," having no thoroughfare at the south end; but boys sometimes took a near cut through a house which had doors in both sides, and passing along the terrace they reached Skene Terrace and Silver Street. When the railway was made in the valley the wooden bridge gave place to a girder bridge at a higher level and a little farther up. It, too, in its turn was removed to give place to Schoolhill Viaduct, completed in 1889. Rosemount Viaduct, which crosses the Denburn above Collie Bridge, was opened in 1888.

UNION BRIDGE.

The most important bridge on the Denburn is Union Bridge, so named in commemoration of the Union of Great Britain and Ireland on January 1, 1801. About this time there was a fashion of naming streets after members of the Royal family and State affairs. This gave us King Street and George Street, Queen Street and Charlotte Street, Albion Street and Hanover Street, Constitution Street and Kingsland Place.

On April 4, 1800, the Royal assent was given to "An Act for opening and making two new streets in the City of Aberdeen." The trustees named in the Act for carrying out its provisions were the magistrates and Town Council, the Members of Parliament for the city and the county, the Principal of Marischal College, the President of the Society of Advocates, the Convener of the Incorporated Trades, and the President of the Shipmasters' Society, all for the time being.

John Rennie, an eminent engineer, was at that time engaged in constructing the Aberdeenshire Canal. By his advice the trustees advertised for designs for the two proposed streets, Union Street and King Street, including bridges at Putachie, Correction Wynd, and the Denburn, the last being the principal feature. Seven designs were sent in, and the first place was assigned to the design of Mr David Hamilton, a Glasgow architect. Hamilton's design included a bridge over the Denburn of three arches, one in the centre being 50 feet in span and the others at the sides being each 37 feet, with a total width of opening of 124 feet. The contract for building this bridge was accepted by the trustees on May 25, 1801, and the contractors undertook to complete the work by July 1, 1802. Thomas Fletcher, 33 years of age, was appointed superintendent of the work on the recommendation of Rennie, whom he was assisting with the works of the Lancaster Canal. He had been resident engineer for Rennie during the construction of the Aberdeenshire Canal in 1796-7, and was familiar with Aberdeen.

Apparently no difficulty had been experienced with the foundations, and by December, 1801, the piers of the bridges were at full height for receiving the arches, when the work was suspended on account of the severity of the weather. Early in 1802 the trustees were informed by the contractors that they had made a serious mistake in their estimates and were unable to complete the contract, and they were ultimately allowed to abandon the work.

Fletcher had been in the meantime examining the levels given by Hamilton in his designs and had discovered mistakes. In consequence of this new plans were required, and it was resolved to increase the width of Union Street from 60 feet to 70 feet, and to reduce the width of the bridge from 50 to 40 feet. Rennie was again consulted, and he prepared three designs and sent them to the trustees:—one for three stone and lime arches, another with stone and lime abutments and a cast-iron arch of 120

feet span, and a third for a stone and lime arch of elliptical contour and 116 feet span. None of the designs was approved, apparently on account of the estimated cost being too great.

DESIGN BY FLETCHER APPROVED.

Thomas Fletcher, having seen the style of bridge that would please the trustees and knowing how much they were willing to spend upon it, prepared a plan for a single arch of stone and lime with 130 feet of span, which was sent to a committee of the trustees and considered by them. It was then sent by Provost Hadden to Thomas Telford, the famous engineer, for his opinion, probably on account of the great span of the arch. Telford's reply to the Provost was highly favourable. He said he was only sorry that the span was not 150 feet instead of 130, and recommended that the space between the top of the keystones of the arch and the roadway should be reduced from $3\frac{3}{4}$ to $2\frac{3}{4}$ feet; that the pilasters and the sides of the bridge should have a batter of half an inch to the foot; and that the pilasters should be drawn back from the arch far enough to show the whole length of the stones of the arch. The pilasters were not drawn back in the plan contracted for, and some of the voussoirs were partly hid, but the batter recommended was adopted; and the space between the crown of the arch and the roadway was reduced a foot, which was a cause of regret when it afterwards became necessary to lay large gas pipes along the bridge.

Fletcher's plan approved by Telford and Rennie's plan of three arches were submitted to contractors, when the offers of the contractor for the canal were found to be the lowest, namely, £9816 for the one arch bridge and £8287 for the three arches. It was resolved to adopt the plan with one arch. Before the contract was signed the contractor offered to enlarge the span to 142 feet for £280 additional; but this offer was not accepted because it would have caused some delay in finishing the bridge; and so anxious were the trustees to have the job completed that they offered the contractor £250 additional if he completed the bridge within the year 1803. The delay caused by the failure of the first contractor to complete his work and the loss of time in preparing new plans caused a serious outlay for interest on the money already

expended, and the trustees were anxious to have the bridge completed as soon as possible. The contract was signed on December 2, 1802, and the bridge was completed August 5, 1803. It had, however, been far enough advanced in February of that year to allow a gentleman on horseback going out of town to ride over the new bridge; and it is reported in the "Aberdeen Journal" of the time that the bridge was opened to the public on the King's birthday, June 4. The dimensions of the bridge were:—Central arch, 130 feet; rise of the arch, 29 feet; height from the ground to the carriageway, 46 feet; width of the carriageway, 40 feet. There are at both ends of the bridge, beyond the pilasters, vaults or blind arches, two at the east end and one at the west, which saved masonry; and in the spandrels there are two blind arches at both ends, each ten feet high, which reduce the weight upon the haunches of the arch. The total cost of the bridge with the vaults came to £13,000.

WIDENING OF THE BRIDGE.

All the engineers concerned in the erection of the bridge were of opinion that it would not only save expense but tend much to beautify the bridge if the width were reduced to 40 feet, and this was done. A hundred years after it was erected it was widened. While the narrowness of the roadway added to the beauty of the bridge and made it a convenient place for crossing the street congested with traffic many people came to think that it ought to be widened, though not to the full width of the street. Accordingly, in 1906 an addition was made to both sides, and the bridge is now 60 feet wide between the parapets. In preparing for laying the foundations of the additions it was found that the west end of the bridge rests on old red sandstone. This was to be expected, for this rock was met with in forming the pit for a railway turntable at the north side of the bridge. At the east end granite was found at a depth of 20 feet 6 inches—overlaid by decayed rock 2 feet 3 inches, gravel with large boulders 5 feet, blue clay 4 feet 3 inches, and gravel 9 feet. At both ends the new additions are laid on bases of concrete. Many years ago when the New Gas Light Company laid large gas pipes along the bridge it was found that there was a bed of red clay from the Tile Burn under the causeway, intended to prevent the passage of water through

the arch, which would dissolve out the lime in the mortar. The many stalactites under the arch show that the clay only partially serves the purpose intended, and that it would have been better to have adhered to Fletcher's first design, which would have allowed of a thicker bed of clay.

When the blind arches passing through the spandrels were entered, slender stalactites were found in the vaults hanging from the roof. They were about a quarter of an inch in diameter and hollow, and so thin and fragile that they could be broken by the breath. Some of them extended from the top to the bottom, a length of ten feet.

MILLBURN BRIDGES.

The mill-dam called the Loch at one time covered the whole area of Loch Street and was too broad to be spanned by bridges; but after its width was contracted and a road was made in the eastern margin of the dam wooden bridges were erected at the end of John Street and St Andrew Street. Houses were erected in the bed of the old loch, at the foot of the bank which hemmed in the mill-dam on the west, and these also had private bridges. When the dam was further contracted to three feet of width and covered up, these wooden bridge were unnecessary and were removed. At the outlet of the dam or Loch as it was usually called, though the Loch and the dam were entirely separate things, was the bridge called the Loch E'e, west of the end of Drum's Lane.

There was a bridge also on the Millburn where it crossed Upperkirkgate. The port or town gate was on the east side of the bridge, the burn being then the boundary of the town.

After driving the meal mill and the flour mill in Flour-mill Brae the water crossed Netherkirkgate at the lowest part of the street, a few yards west of Wallace Neuk, and ran down on the west of Putachieside. Where the burn crossed Netherkirkgate there was the Little Bow Brig. The name would lead us to suppose that the bridge had an arch; but perhaps the bridge consisted of a long and broad stone, or two or three tree trunks resting upon dwarf walls of mason work at the sides of the burn. The bridge is mentioned in the Chartulary of St Nicholas (II. 393) in an entry of the Kirk and Bridge Work accounts of date June 3, 1593, which reads:—

The 3 of Junii Alexr Cullen, Provest agreed with Andw. Jameson, messone, for to repair the eist syd of the lytill bowbrig besyd the hospital (St Thomas's) in the Neddirkirk-gate to find warkmanship and roche stanis to the sam for the sum of viii li.

Here we may observe that only one end of the bridge was in want of repair, and the work was to be done with rough stones, which would not have been suitable for an arch. The inhabitants of Aberdeen had not yet learned how to quarry and dress their native granite, though foreign workmen had built the nave of the Cathedral of granite outliers some centuries before. Had the "bow" been a real arch, sandstone and not rough stones must have been used. The burn was the eastern boundary of the property on which the Hospital of St Thomas was built (Chartulary, II. 137).

After crossing the area now covered by Union Street and the Market the Millburn was crossed by a small bridge, which the older citizens remember, on the south side of the Market. As the Nether Mill had ceased to be a meal mill and had been converted into a malt mill, the bridge was latterly called the Maut Mill Briggie. Its site must have been in the top of Exchange Street, as it was in Fisher Row and the burn was on a line passing through the sites of the Commercial Bank in Union Street and the North of Scotland Bank in Exchange Street.

THE THIEVES' BRIDGE.

For a long period the place where criminals were executed was the Gallow Hill, which was reached by Justicee Street and Park Street. This street was the way to various enclosed pieces of grazing ground, to which the townsmen sent their cows in summer. It crossed the Powcreek Burn, in the line of Jasmine Terrace, by a small bridge which criminals passed over on the way to execution. These being mostly thieves the bridge was called the Thieves' Brig.

CANAL BRIDGES.

The entrance to the Canal through Waterloo Quay was crossed by a substantial wooden bridge, put on in 1834 when the sea loch connecting the Canal with the harbour

was formed. It was removed when the railway was made. Of the original bridges over the Canal No 1 connected Virginia Street with Canal Terrace. This bridge was also removed when the railway was made. Canal Terrace, formerly a pleasant residential street, was curtailed in length and reduced in width by the railway and became an unimportant place. Bridge No 2 gave access to the Links from the Bowl Road, now Albion Street. When the Banner Mill was erected this bridge was the chief approach to the mill for the workers; but it is not much used now since the stoppage of cotton-spinning and the closing of the mill. No 3 carried Constitution Street over the Canal, and now it carries it over the railway. No 4 is in Park Street. Formerly the bridge was at the end of Jasmine Terrace, and was called the Thieves' Brig. When the Canal was made it drained to some extent the low lying marshy ground on the east side of King Street; the Powcreek Burn became a sewer; and the Thieves' Brig was removed and erected over the Canal. Before the formation of King Street the Thieves' Brig was of more importance than it was in the last century. Farmers from Buehan and Formartine on their way to Aberdeen crossed the Don at the Brig of Balgownie and held on the way to Old Aberdeen. At Seaton Place many turned eastward, and passing Seaton Brickwork, went along the Links and crossed the Powcreek Burn by the Thieves' Brig. Going along Park Street they entered the Castlegate by the Justice Port, considered the chief entrance from the north before King Street was made. Bridge No 5 was in King Street and, as the town for long did not extend farther than the bridge, beyond it the name changed to North Road. The Customs station, however, was a little farther out, at the end of Nelson Street. Here butter and eggs and other country produce paid a tax before being allowed to enter the town. This irksome toll was given up by the Town Council in 1879.

No 6 and No 7 were in Nelson Street and Mounthooly, where there are still bridges occupying the same sites as the old. No 8 was in the line of Canal Road, which after crossing the Canal was met at a right angle by Froghall Terrace. The bridge was shifted a hundred yards to the north-west when the railway was made. No 9 was farther west than the bridge on Bedford Road. Part of the wing wall of the old bridge may be seen near Kitty-brewster South Cabin. By the look of the bridge at

Erskine Street one would suppose that it had been constructed with the stones of No 9. Some of the Canal bridges served for the railway, but others were too high or too low and had to be taken down and rebuilt. No 10 was at the Boat-House at the head of the Brae Road, and it gave the people of Old Aberdeen access to the Canal boats.

BRIDGE OF BALGOWNIE.

Built into a buttress at the west end of the Bridge of Balgownie, on the south side, there is a slab with a shield and an inscription. The shield bears three small shields, the Hay coat-of-arms. In the centre there is a small square, for a difference from the shield of the chief family. Above the shield there is the letter S for Sir, and at the sides A and H for Alexander Hay. Below there is the following:—

ANNO 1605 DOMINUS ALEXR HAY CLERICUS REGISTRI EX
INNATO IN REMPUBLICAM AMORE £27 8 8 SCOTICOS EX
QUIBUSDAM AGELLIS QUOTANNIS AD ABBREDONIAM IIUIC
FABRICAЕ SUSTENTANDAE DEDICAVIT; which means.

In the year 1605 Mr Alexr Hay, Clerk of the Register, from innate love for his country dedicated £27 8s 8d Scots, to be paid yearly at Aberdon from certain crofts for upholding this fabric.

SIR ALEXANDER HAY'S MORTIFICATION.

All the land in Scotland originally belonged to the Crown for the nation and at the Reformation all grants of land for public religious services no longer to be performed reverted to the Crown. In 1587 an Act of Parliament annexed to the Crown the temporalities of all benefices; but the usual teinds were reserved for the clergy, with their manses and glebes, and the bishops' residences. At the Reformation the chaplains and vicars of the choir of St Machar Cathedral held lands, feu-duties, and annual rents, which reverted to the Crown; but the chaplains and vicars of the choir were allowed by the Lords of the Council to retain their dwelling in the Chanonry and to draw their revenues as before during their lives. Alexander Hay, one of the King's servitors, holding the office of Director of the Chancery, had coveted their properties and had got the promise of them from the

King during his life. The chaplains and vicars, however, still remained in possession and, though Hay had been at great expense and trouble to establish his right to the properties and to secure the title-deeds, he had derived little benefit from his grant, and the King was induced in 1574-5 to give him the chaplains' properties in perpetuity. A long list of feu-duties and rents with the lands from which they were payable, is given in "Registrum Magni Sigilli," under date February 10, 1574-5, No 2360. It contains the names of many places in ancient Aberdeen which have now dropped out of use. The reddendo or return for the grant was 1d of rent, with the obligation of upholding the Bridge of Don or paying annually for that purpose £20 Scots. Alexander Hay died in 1594, and probably he had never contributed anything to the maintenance of the bridge, because he had not got full possession of the chaplains' revenues.

His younger son, Sir Alexander Hay, afterwards a Court of Session judge with the title of Lord Newton but then styled the King's servitor, one of the Ordinary Clerks of his Supreme Senate, succeeded to his father's rights and responsibilities in the chaplains' revenues. In 1600 he got the revenues confirmed to him by a new charter from the Crown. In 1605 he mortified to the Town Council of Aberdeen feu-duties and annual rents formerly belonging to the chaplains and vicars to the amount of £27 8s 8d Scots, annually, to be applied by them for the upkeep of the Bridge of Don and for no other uses, as they should wish to answer to God at the last Judgment. The reason for this stringent clause was that the whole revenues of the grant were liable for the £20 for the maintenance of the bridge, and if the Town Council sold or misapplied the subjects conveyed to them the part of the grant which he had kept to himself would become liable for the whole obligation contained in the grant.

THE BRIDGE OF DON FUND.

The Town Council were so pleased with the charter that they paid all the expenses connected with obtaining it, amounting to more than £20, and presented Sir Alexander Hay with a barrel of salmon worth £40. Moreover, they put up on the bridge the flattering inscription given above, which attributes to Alexander Hay's patriotism what was merely a discharge of a legal obligation incurred by his

father. It should also be remembered that the great annual income of the chaplains was given by Parliament to the King for national purposes, and not to be given to greedy, importunate servitors. The small fraction of the revenues given to the Bridge of Don was intended to give the colour of legality to a shameful, illegal transaction, and hence Sir Alexander Hay's care to get, first, his right to the grant sanctioned by Parliament; and, secondly, its approval of the mortification as a discharge of his legal obligation concerning the bridge. He seems to have found the collection of the revenues a troublesome business, and in a few years he sold his right in them to the depute town clerk of Aberdeen; but it mattered nothing to the Town Council who held the main part of the original grant so long as their small part was paid. The repair of the bridge seems to have been completed about 1610, and after that date the Town Council had been able to save up the annual income from the mortification for a long time. In the beginning of the seventeenth century the rate of interest seems to have been 10 per cent., and at that rate the annuity would have amounted to ten times its value in the course of 24 years, to a hundred times its value in 48 years, and to a thousand times its value in $96\frac{1}{2}$ years. In a hundred years the amount of the annuity with interest would have been over £30,000. Even at 5 per cent. the amount in a hundred years would have been nearly £6000.

The Town Council invested the Bridge of Don accumulations, along with other funds under their management, in the purchase of the estate of Easter Skene, three-tenths of which belongs to the Bridge of Don Fund, from which an annual income of £300 is derived. Other accumulations of revenues have been lent out at interest, and the whole income of the fund, including the original bequest—£2 5s 8 $\frac{1}{2}$ d stg.—amounts to £728; and the fund itself at present is worth about £26,523. By agreement with the promoters of the Victoria Bridge the free annual revenue of the fund goes to the reduction of the debt on this bridge, which amounts to £10,000.

By retaining a sum sufficient to erect a new bridge, if either the Bridge of Balgownie or the new Bridge of Don should fall, the Town Council feel that they may disregard the imprecation of Sir Alexander Hay against them if they turned the mortification to other uses than upholding the Bridge of Balgownie.

Out of the fund they erected the new Bridge of Don, and from it they are practically paying two-thirds of the whole cost of Victoria Bridge. The bridges at Persley, Dyce, Fintray, Kintore, Kemnay, Monymusk, Towie, Insch, Newburgh, Maryculter, and Huntly, and the old bridge of Powis all benefited by the Mortification.

ROBERT THE BRUCE AND THE BRIDGE.

In the narrative clause of the deed of mortification Hay says:—

History testifies that the Stone Bridge over the water of Don was built by command of Robert Bruce, which bridge seems to be falling into decay because there is no annual provision for its maintenance.

History nowhere testifies anything of the sort. The statement has no other foundation than an Act of Parliament, dated December 18, 1318, titled:—"Carta restitutionis Roberti Regis Henrico Episcopo Concessa," Charter of restitution given by King Robert to Bishop Henry [Cheyne]. It is given at full length in "Registrum Episcopatus Aberdonensis" (1. 44), and the substance of it is that the King in a full Parliament held at Perth remitted a hostile feeling which he had conceived against Bishop Henry of Aberdeen, and which had led him to arrest in the hands of all the officers of the Crown and the provosts and baillies of burghs north of the Forth the temporalities of his office. These were now to be restored to the bishop for the future, along with any arrears not paid to the King's officials. There is not the slightest indication of the offence which the bishop has committed, nor of the use to which the revenues of his office had been applied. The Bridge of Don is not mentioned, and there is nothing said to show how many days or years the arrest lasted, or whether the sum withheld was large or small. Nor does what is known of the bishop throw any light on the King's rancour against him. Though he swore fealty to Edward I. at Berwick, and again did homage to him at Aberdeen, and afterwards at Berwick, on the other hand he was present at a great meeting of the clergy held at Dundee in 1309, where they issued a declaration in favour of Robert Bruce, King of Scots, with whom his faithful people said they wished to live and to die. And after his remission we find the King appending to a document in addition to his own seal

that of Bishop Henry and some other seals, because they were better known than his own. There is, therefore, no ground for attributing the erection of the bridge to Robert I. and no evidence that the cost of its erection was defrayed from the sequestered temporalities of the bishopric of Aberdon. The Act seems to be a forgery.

THE "LEGEND" OF THE BRIDGE.

An old alliterative and metrical triplet by an unknown "poet" but in folk-lore ascribed to Thomas the Rhymer, runs:—

Brig o' Balgownie, though wight is thy wa',
Wi' a mither's ae son, on a mear's ae foal,
Down shalt thou fa'!

Which may be paraphrased:—

Oh Brig of Balgownie, though now in your youth your sides are strong, yet you will inevitably grow old, and a day will come when you will be so frail that your back will be broken by the weight of a single rider. The day of fate will come for you when the rare coincidence shall happen that a man who is the only son of his mother attempts to ride over you on a horse, the only foal of a mare.

Byron in "Don Juan," Canto x. 18, shows that he had learned to repeat the versicle in his residence in Aberdeen, though he had partially forgotten it. He says:—

As "Auld Lang Syne" brings Scotland, one and all,
Scotch plaids, Scotch snoods, the blue hills, and clear streams,
The Dee, the Don, Balgounie's Brig's black wall,
All my boy feelings, all my gentler dreams

In a foot-note to the stanza he says:—

The Brig of Don, near the "auld toun" of Aberdeen, with its one arch, and its black, deep salmon stream below, is in my memory as yesterday. I still remember, though perhaps I misquote, the awful proverb which made me pause to cross it and yet lean over it with a childish delight, being an only son, at least by my mother's side.

THE NEW BRIDGE OF DON.

The old road from Aberdeen to Ellon was narrow and hilly, and an Act of Parliament for a turnpike following a more level course near the coast was obtained before the

beginning of last century. This led to another Act for building a new bridge near the mouth of the Don, which was obtained in 1825. A design was prepared by Mr. John Smith, city architect, for a bridge of five semicircular arches, each 86 feet span, with a roadway 26½ feet wide within the parapets, and 42 feet above the sea level. The design was revised by Telford, and the bridge was contracted for by John Gibb and Son. The foundation was laid in March, 1827, and the bridge was opened in November, 1830, simultaneously with the Suspension Bridge over the Dee at Craiglug. The total cost of the new bridge was £17,000. It was soon found that the bridge was too narrow for the traffic over it; but the opening of the Buchan and Formartine Railway relieved it of coaches and carriers' carts, and there is now comparatively little traffic over it. The Bridge of Don Act says that the Bridge of Balgownie was built by King Robert Bruce of blessed memory; but this statement had been taken from Sir Alexander Hay's charter.

GRANDHOLM BRIDGE.

In old charters Grandon occurs instead of Grandholm. This name may mean a large river island, but the course of the Don has been greatly altered artificially since the erection of the Grandholm Mills, and there is no island now. The bridge was constructed to accommodate workers at Grandholm flax mills who lived in Woodside. It belongs to the proprietors of the mills and is their private property, but respectable, orderly people are freely allowed to cross the river by the bridge. Being constructed of wood it has required considerable repairs since it was first opened. The flax mills were unsuccessful and were stopped at the time of the Russian War. After a time they were purchased by the proprietors of Cothal Mills and converted into a cloth manufactory.

PERSLEY BRIDGE. *

The erection of Persley Bridge was determined upon in 1888, but it was for a time opposed by the Messrs Pirie, of Stoneywood Paper Works, and it was not opened till 1892. The Town Council of Aberdeen contributed from the Bridge of Don Fund £100 to buy off the opposition of

Messrs Pirie, and afterwards £500 to the erection of the Bridge. It was expected that it would be a great benefit to Persley Granite Quarries on the north side of the Don, but work at these has been stopped, and the bridge is not much used now.

BUCKSBURN BRIDGE.

In 1632 the Town Council of Aberdeen ordered a bridge to be built over the Bucksburn, where also they had previously built a mill. In 1663 George Davidson, merchant in Aberdeen, left to the Master of Kirk and Bridge Works in Aberdeen 100 merks for upholding the bridge, which by accumulation provided a new bridge when it was required. George Davidson was proprietor of Pettens, small place, and Ardo, hilly place, in Belhelvie. It is said that he was induced to make provision for a bridge at Bucksburn by seeing a man drowned in crossing the burn. He is commemorated by an inscription in the north wall of the churchyard of St Clement's, Aberdeen.

MARISCHAL STREET BRIDGE.

In ancient Aberdeen the Denburn ran along Virginia Street, full 60 feet below the level of Castle Street, though the distance between the two streets is only 300 feet. It was desirable to get access to the harbour from Castle Street, therefore, it was resolved to divert the Denburn into the harbour and to throw a bridge over the bed of the burn and form it into a street. This new street was called Virginia Street, because in that part of the town were the buildings connected with the important trade carried on with Virginia before the war with the United States began in 1776.

In the middle of the eighteenth century Castle Street was closely hemmed in with buildings. Though there were several entrances into the wide open market place they were but narrow lanes. In 1768 Marischal Street was planned. The house and garden belonging to the Earl Marischal on the south side of Castle Street were purchased; the foundation of the bridge over Virginia Street was laid; the houses in the line of the street were demolished; and a great embankment was formed between the bridge and the harbour. The new street was called Marischal Street in honour of the Earl.

PUTACHIE BRIDGE.

Putachieside was the name of a street which began at the foot of Carnegie's Brae and went south in the line of Market Street, curving to the west. All that remains of it now is the part under Union Street and a part under Market Street. It serves to connect Carnegie's Brae with the Green.

When Union Street was planned the first idea was to have the whole length from Castle Street where it began, to Summer Street where it ended, in one uniform slope. Considerations of expense led first to planning it with two slopes meeting at Putachie, and, secondly, to leaving the west end nearly level and making the rest in two slopes. If the original design had been carried out the bridge over Putachieside would have been far loftier than it is, and the retaining walls on both sides of the street between Putachie and the Denburn would have been higher and more costly. As it is, Putachie Bridge cost £3634. There are arched cellars under Union Street at both ends of Putachie Bridge, and there are others under St Nicholas Street.

Market Street was not formed till 1842, and there was a direct route from the Shore under Putachie Bridge, but the upper end at Carnegie's Brae was too steep for heavy-laden carts.

CORRECTION WYND BRIDGE.

This is one of the items which made the formation of Union Street ruinously expensive to the town. It could hardly have been dispensed with, for though many of the inhabitants seldom if ever pass under it carters from the harbour find that the easiest way into the town is under Correction Wynd Bridge, and it gives access to the market in the Green. But, perhaps, when it was formed the main purpose in view had been to afford a convenient access from the Green to the East and West Churches. It is said in the "Book of Bon-Accord" that Correction-House Wynd was opened about 1636; but a vennel on the east side of the churchyard of St Nicholas is mentioned in the "Chartulary of St Nicholas" (II. 137) as the west boundary of the ground of St Thomas's Hospital.

CASTLEHILL BRIDGE.

In early times the hollow between the Castle Hill and the Heading Hill was but slight, and no bridge was necessary to connect the two hills. By lowering the south end of Park Street, the depth of the gap between the hills was increased, and in 1839 the lane was widened and improved and a bridge was thrown over it connecting the two hills. From the bridge stone stairs at both ends lead down to the street below, which is now called Commerce Street but formerly Justice Street. The latter name was historically the more appropriate because the bridge is probably on or near the spot where the Justiciar of the north of Scotland held his courts. They were usually held in the open air near a small hill or artificial hillock. A court was held near the Castle in 1299 ("Book of Bon-Accord," p. 375). It is from being near the site where the Justiciar's Courts were held that Justice Street derived its name.

The bridge rests upon four cast-iron ribs, segments of a circle, from which slender bars rise vertically, supporting a horizontal roadway. The ribs rest upon cornices in the stone piers at the ends. On both sides is the following inscription :—

JOHN DUFFUS AND CO., FOUNDERS, ABERDEEN, 1839.

POWIS BURN BRIDGES.

The old road from the north to Aberdeen came down Clifton road, but near the bottom of the brae it bent to the west and crossed Central Park. It crossed the Powis Burn at the east side of the park at a place called Kingsford. This name is not derived from the English word king but from the Gaelic word "ceann" meaning head, and the name means a place at the end of a ford.

There was another ford on the tributary of the Powis Burn which came from the Loch of Old Aberdeen, but when the Loch was drained a bridge took the place of the ford. It was at the Mortar Hole at the bottom of Boat-House Brae, and it was one of the stations where custom was collected on St Luke's Fair days.

A bridge over the Powis Burn in College Bounds is mentioned in 1531 in Bishop Gavin Dunbar's "New

Foundation of King's College" in "Fasti Aberdonenses." The Powis Burn separated the college garden from the university buildings. This bridge is mentioned in 1665 as being one of the custom stations on Fair days. The burn was the water supply of High Street, College Bounds, and the north end of the Spital, and in 1689 the Town Council issued an ordinance forbidding washing in Powis Burn above the bridge. It is shown in Gordon's chart of Aberdeen, 1661.

The bridge required repair in 1697 and the members of the College presented a petition to the Kirk Session requesting that stones of the Kirk which had fallen and were lying in the Kirkyard should be given for repairing the bridge. The petition was granted, the Session "knowing the usefulness of that bridge and the same lyk to go to ruine unless speedily repaired." When the last bridge over the burn was erected the cost was defrayed from the Bridge of Don Fund, but this bridge was removed when the burn was covered up through the University grounds. The foundations of the bridge were laid bare in 1906 in the course of some sewage operations where the burn crosses College Bounds. When King Street was formed a bridge was made over the burn at Lady Mill. A parapet on the west side of the road marks its position.

The lower part of Powis Burn is called the Tile Burn. Near Seaton Brick and Tile Work it was crossed by the Tile Ford, which was on the road from the Brickwork to the Sand Hills at sea-side, where the sand required in brick-making was got. A wooden bridge has now taken the place of the ford.

THE ABERDEENSHIRE CANAL.

This undertaking was projected in 1795 by proprietors and others interested in the Garioch, for the purpose of conveying to Aberdeen harbour the agricultural produce of the district, timber, slates from the hill of Foudland, etc., and carrying back shop goods, coals, and lime. Latterly, also large quantities of bone manure and guano were carried. Passengers were conveyed from Port Elphinstone to the neighbourhood of Kittybrewster, within two miles of Aberdeen.

An Act of Parliament was obtained in 1796 for carrying out the work and for raising a capital of £20,000 in £50 shares. From various causes the whole amount was not raised, and in 1801 another Act was obtained enabling the company to raise other £20,000. In 1809 a third Act was obtained to raise money for completing the work to the best advantage of the company, and in all the canal cost £44,000.

The undertaking involved no engineering difficulty. The Canal was $18\frac{1}{4}$ miles long, 17 feet wide, and 3 deep, though the width was afterwards increased to 23 feet and the depth to nearly 4 feet. There were no tunnels, deep cuttings, or high embankments; but there were 56 bridges over it and 5 culverts for burns under it, which caused great expense. The most expensive part of the work was the locks for raising barges and boats from the lower end of the Canal at the harbour of Aberdeen to the level of the Don below Inverurie. Of these there were 17, each 60 feet long, and they had a lift of about 9 feet. The two at Stoneywood were each 16 feet deep.

The Canal began at the Don just below the bridge near Inverurie, but the working terminus was at Port Elphinstone, a mile from Inverurie. The origin and growth of Port Elphinstone were entirely due to the Canal. Here commercial companies had stores within which barges could be taken, and they were expeditiously loaded with grain led down in shoots from lofts above.

The Canal kept the west side of the Don, at a gradually increasing height above the river, because there were few locks till Aberdeen was approached, whereas the river was constantly falling; but though the distance from the river varied with the contour of the land, the Canal was never

far from the river, and it was within a mile of the Don at Woodside. It passed along the west side of Kintore, winding in and out of little valleys to save cuttings and embankments. Its bed may be seen here and there between Kintore and Dyce, because it was too crooked for the railway to follow it closely. A little below Kintore on the west side of the railway may be seen a red-tiled house, with a pavilion roof, one of the few belonging to the canal still to be seen. At Greenbank, near Stoneywood, there were two locks. North of Bankfoot the canal was between the turnpike and the railway. It crossed the Bucksburn by an aqueduct a little to the west of the railway. At Haudagain there was another lock. This comical name is a good example of the change a Gaelic name may undergo in passing into English. The original form had been "Achadh a' Gabhainn," meaning a place where there was a fold. There are other names in Aberdeenshire with the same meaning and nearer the original form. From Haudagain, for some distance onward, the Canal kept close to the line of the turnpike road.

A hundred years ago what is now the town of Woodside had hardly begun its existence. There was a solitary place called Woodside, west of Deer Road and near the riverside. East of Deer Road and near the river there was another solitary place called Printfield; and east of Don Street there was a third place called Upper Cotton. It had nothing to do with cotton or its manufacture, for it was a corruption of a Gaelic word "cuitan" meaning small fold. In the course of fifty years there had sprung up along Great Northern Road three villages:—Woodside, west of Deer Road, also called Barron Street; Printfield, east of Deer Road, also called Hadden Street; and Cotton, east of Don Street, also called Wellington Street. These three streets are now collectively called Great Northern Road, and the three separate places now collectively bear the name of Woodside. At Barron Street the Canal was near the road; at Hadden Street it was at the north end of the gardens, and its track was unoccupied with buildings for a considerable time, though it is not so now; at Wellington Street and on to Kittybrewster the Canal kept quite close to the road. At Fullerton Road, often called the Brae Road, there was the Boat-House, still standing, but originally it had a red-tiled pavilion roof. Passengers were not carried further than this house, which is two miles from the harbour, as may be seen by a milestone bearing the

figure 2 at the edge of Great Nothern Road. It had been allowed to remain when the other Canal milestones were removed, because it had been supposed to be a road milestone. As the Canal charges were by the mile it was necessary to show distances along the whole line of the canal. No 1 milestone was above Mounthooly Bridge. No $8\frac{1}{2}$ is shown on the six-inch Ordnance Survey Map, east of the railway.

At the Boat-House there were usually numerous on-lookers, and amongst them often one or more of Aberdeen's "Odd-fellows," whose likenesses may be seen near the entrance to the Reference Department of the Public Library, willing to play the fiddle, sing, or dance for coppers from the passengers.

The passenger boats did not come below the Boat-House because between it and the entrance to the Railway Station there were several locks, which caused delay to the passage of barges. Entering the station gate there may be seen, on the east side of the railway, part of the wall of an approach to a bridge over the Canal on the former road to Old Aberdeen. From this point down to the harbour the goods line of the railway keeps to the bed of the Canal. There were several locks on the part of the Canal bordering on Elmbank Terrace, and near the bridge there is in a nursery a small red-tiled house which was a cabin for the lockman who opened and closed the locks when barges passed up and down. At Mounthooly there was a wharf which was the chief town station on the canal. Here were delivered and taken on goods from and to country merchants. After 1830 Messrs Barry, Henry, and Company crushed bones for manure, which were shipped here. Below Mounthooly there was another lock, and on the upper side of the bridge at Nelson Street there was, on the east side, a place where the barges could be repaired. Below Nelson Street there was a wide part where two barges could pass one another, and between Nelson Street and King Street there were two locks, the lower very near to King Street. From King Street downwards there were grassy slopes on both sides, which were let to householders for bleaching greens; and for the convenience of women who washed clothes on the margin of the canal there were small wooden platforms, where they could dip pails easily. The "Aberdeen Journal" takes notice of cases of green-stripping, or theft of clothes left by washers to bleach on the greens near the canal. This was attributed to

drunken "limmers," who spent their last penny on drink at night, and rising next day with an unquenchable thirst were impelled, "inproba fave," to go out prowling for something to steal and pawn, and as the greens were outside the town they were visited. To protect the bleaching clothes girls were sometimes left in charge, but if the watcher were too small the thieves had little scruple in stripping her too.

At the beginning of last century water was scarce in Aberdeen, and great annual family blanket washings were often carried out at the canal side. On such occasions it was customary for two young women to tramp the blankets in a large tub. They stood side to side facing different ways, and having kilted their petticoats they joined hands behind their backs and went round and round in the tub. This was done in most cases away from roads, and the women were not molested; but some women washing on the canal bank where it was crossed by King Street were for a time annoyed by lads who sat on the parapet of the bridge, with their feet dangling above the water, and chaffed and laughed at the washers. One day while this was going on at the dinner hour, a young man—probably at the instigation of the girls—came along and shoved the middlemost off the parapet into the water and ran off. The others hurried down to get their companion out, and meanwhile the girls' friend got safely away.

There was little fall for some distance below King Street. At Park Street the canal passed below a bridge called the Thieves' Brig, but this was not the original bridge of this name, which was also on Park Street but an eighth of a mile farther south, where it crossed the Powcreek Burn. This burn was passed under the canal by a culvert. A little above Constitution Street there was another lock, and there was another at Fish Street below "The Bowl Road," now Albion Street. The last was a little above Virginia Street.

The canal terminated in a rectangular basin near Waterloo Quay, a little to the east of the bend where Regent Quay begins. When the basin was excavated, anchors and other relics of ships were found. This spot had been the estuary of the Powcreek Burn, the original boat harbour of Aberdeen. The summit level of the canal was 168 above low water mark, which would be 16 or 17 feet below the Ordnance Survey datum level, ordinary mean sea level.

The overflow of the canal was to the harbour, and it

was regulated by a lock, which did not at first give a passage for barges to the harbour, but in the early 'thirties a sea lock was made which allowed barges to load alongside vessels anywhere in the harbour and enter the basin at high tide. The harbour had not at that date been converted into a wet dock.

The canal was opened on May 31, 1805. The Committee of Management assembled in the morning at the basin at Port-Elphinstone, attended by the Provost, Magistrates, and the minister of Inverurie and other inhabitants. The company embarked on board one of the barges called "The Countess of Kintore," handsomely decorated and fitted up for the occasion by Captains Bruce and Freeman, the commanders of the two fly-boats. The barge proceeded to Kintore, where they were joined by several parties of ladies, who were highly pleased with the novelty of the navigation through the locks, while several thousands of the inhabitants crowding on the banks and bridges added much to the interest of the scene. A gun fixed to the bow of the barge was fired occasionally to announce its approach. The company and occasional visitors partook of refreshments on board the barge, and the voyage, which lasted seven hours and a half, terminated at the basin near the quay without the slightest interruption. The band of the Stirlingshire Militia, then stationed in Aberdeen, met the barge several miles from Aberdeen, and played many favourite tunes during the remainder of the voyage. The committee afterwards dined together at the New Inn, and after dinner drank success to the undertaking.

The traffic on the canal was conducted by two iron boats, made in Aberdeen, for passengers, and by long, low, wooden barges covered with movable hatches for goods. The passenger boats started from both ends, morning and afternoon, in summer, but they made only one journey each way in winter, and it had to be suspended in frosty weather. They were drawn by two or three horses going tandem with a boy riding on the first horse. The boats belonged to the canal company, but they were farmed out to a tacksman. The company had barges of their own which they hired out to traders, who contracted with farmers and others to draw these when required. The commercial companies built their own barges and employed their own horses to draw them. At some of the bridges the road and the canal were nearly at the same level, and the driver unhooked the chain by which the barge was

drawn, and it passed through below the bridge of itself. The driver was ready to hook on the chain as it came out, and little time was lost. When the canal was below the level of the road the horse passed under the bridge on a narrow path at the side, usually covered with a foot of water. At King Street the horse passed under the bridge. Goods barges took 10 to 14 hours from Port-Elphinstone to the harbour. Passenger boats made the journey to the Boat-House in $2\frac{1}{2}$ hours. Horses were changed at Dalwearie near Kintore, and at Dyce.

The canal was not a money-making business, but it was of great service to the farmers of the Garioch, and indirectly it benefited the proprietors, the promoters of the enterprise. The canal was doing an increasing business when the Great North of Scotland Railway Company's Act passed Parliament in 1845, when it was for their mutual advantage that the canal should be transferred to the railway company to facilitate the construction of the railway and to avoid competition. It was sold in 1845 to the railway company for £36,000, and after Whitsunday, 1846, it was managed for behoof of the railway, though the company could not raise the money to pay for it till 1853. The first turf was cut for the railway at Westhall, Oyne, in 1852, the Inverurie to Huntly section being first made to let the canal remain in use till its bed was needed for the railway. In strict form of law the railway company should not have got possession of the canal till the price was paid; but a great amount of legal conveyancing had to be done because the railway company had to get a discharge from every shareholder and mortgagee of the canal, and the business had not been got through when the contractor for the railway reached Kintore with his work and required the canal bed. Instead of waiting till the lawyers had finished their work he solved the Gordian knot of the difficulty by cutting a gap in the bank of the canal and letting out the water.

The railway was finished as far as Kittybrewster, September 19, 1854; and next year it was opened to Waterloo Quay, and the canal, where not under the railway track, soon became grass-grown and forgotten.

THE PORTS

An interesting feature of ancient Aberdeen was the six ports or gates into the town. No trace of any of them is now to be seen; but the places where they stood are known, and they serve to show the extent of the town when they were erected. They were far too old to be mentioned as new in any record of the town. The need for them as a protection against nightly thieves and robbers, or hostile incursions of armed noblemen and their followers, was never greater than when Aberdeen was first made a burgh and the seat of annual fairs visited by merchants with wares from other countries—say in the beginning of the twelfth century. In the “Book of Bon-Accord” (p. 142) it is noted that the silver keys of the ports delivered to the Provost of the city on his election are only three in number, from which the author infers that when the keys were made there were only three ports; but this is hardly a safe conclusion to come to. The keys of the ports are now represented by two ancient-looking, small silver keys. He quotes also a local byword:—“There is not such another within the four bows of Aberdeen”—from which he seems to infer that there had at one time been only four ports. It may have been so, but two of the gates might have been hung from the walls of the houses, or when the saying came into use two of the gates may have become ruinous and may have been removed as useless nuisances, as all at length were.

In Gordon’s Chart of the City in 1661 only four of the ports are represented. A port is represented by a high wall across the street with an archway in the middle. There was a gallery over the Upperkirkgate Port, from which it may be inferred that some of the ports were in the style of the ancient Roman gates. There is an ancient Roman gate in Aosta in the form of a guard house stretching across the street with a room having a lofty gateway in both sides. In the Roman wall between Newcastle and Carlisle there were gates at intervals. They were guard houses with two gates for two horse chariots in both sides, and accommodation for keepers inside. Each gate had two leaves turning on pins, which folded inwards and when closed butted against a stone in

the middle of the passage. In driving through the gate the block would have been between the two horses.

The Aberdeen ports were secured by locks and chains and catbands, and no doubt it had been the rule that they should be closed and locked every night; but perhaps this rule was strictly observed only in times of civil war in the country, or when infection from the terrible plague was apprehended. For the convenience of those taking an airing there were stone seats outside the gate, and these were useful as "Louping-on stones" for travellers on horseback leaving the city. This lets us see that the bows were not high enough to give a passage to riders, and travellers had not mounted their horses till they were outside the gates.

GALLOWGATE PORT.

The northern entrance was guarded by the Gallowgate Port, at the east end of Windy Wynd, now annexed to Spring-Garden. The old name tells us that it was once just outside the town. This port was also called the Causey or Calsie Port, which name might have been given to it because at it the causewaying of the Gallowgate began. Causewayend must be a newer name, dating from the time when the causewaying was extended a quarter of a mile farther out to the city parish boundary, where "Causewayend" may be made out on a house on the north side of the road.

In 1518 the Gallowgate Port was considered ancient, and it was adorned with the royal arms. These may have been put up when Aberdeen was made a royal burgh, or they may have been put up in honour of James IV. in 1501, when he passed through the port and inspected the building operations at King's College.

JUSTICE PORT.

The Justice Port was in the mouth of Justice Street, between the west front of the Salvation Army Barracks and Gardener's Lane. It was also familiarly called the Thieves' Port. It took its proper name from being in the street leading from Castle Street to the seat of the Justiciar's Circuit Courts beside the Castle Hill, and its colloquial name from thieves sentenced to be hanged on the Gallowhill passing through it, never to return. On

such occasions a crowd of noisy spectators always accompanied the poor wretches. There were some people who never missed being present at an execution. The procession crossed the Powcreek Burn at the end of Jasmine Street by a small bridge called the Thieves' Brig. Criminals were usually executed three days after being sentenced. This gave time for an appeal to the Sheriff from inferior courts. The Bowl Road, which led from the Links to the Justice Port, was sometimes barricaded with booms of wood to keep out objectionable persons.

The battle of Corrichie was fought October 28, 1562, in a little hollow on the south side of the Hill of Fare, seventeen miles from Aberdeen. The Marquis of Huntly lost his life in it, and four days after his second son, Sir John Gordon, "the Queen's love," was executed in Aberdeen. His head was afterwards exhibited on a spike stuck on the top of the Justice Port.

UPPERKIRKGATE PORT.

The Upperkirkgate or Schoolhill Port was just within the mill burn, which came down Burn Court. Kennedy says that before 1585 a gallery had been erected over the port, which communicated with the house adjoining the north end. It has been supposed that Samuel Rutherford occupied this gallery during his banishment to Aberdeen, 1636-8, for his strict non-conforming Presbyterianism and severe Calvinism, but his letters written in Aberdeen contain nothing to bear out this supposition.

When wheeled conveyances came into general use the ports were found to be an inconvenience, and in 1793 the Upperkirkgate Port with its gallery was purchased by the city for £140 and demolished.

NETHERKIRKGATE PORT.

The original course of the mill burn after crossing Upperkirkgate had been southward across the top of Flourmill Brae, a little west of Flourmill Lane, and across Netherkirkgate at its lowest part. The point called Wallace Neuk had no existence till Sir Robert Keith of Benholm built his house between Carnegie's Brae and Netherkirkgate about the end of the 17th century. The

Netherkirkgate Port was between the little Bow Brig and the end of Flourmill Lane.

TRINITY PORT.

The entrance to the town on the south-west was guarded by Trinity Port, so called because it was near Trinity Church. It was in the Shiprow, and hence it was also called Shiprow Port. Its site was a short distance west of Shore Brae.

FUTTIE PORT.

There was formerly a street called Futtie Wynd with houses on both sides, which issued from the south-east corner of Castle Street and descended the steep brae straight down to Trinity Burn, the nearest water to Castle Street, whose place is now occupied by Virginia Street. At the burn side it was met by a lane coming down between the Castle Hill and the Heading Hill. The Futtie Port was in a line with the south side of Castle Street.

In 1710, when there was a fear of a French invasion, the port gates were ordered to be repaired with oak beams.

THE CITY BOUNDARIES.

These ports distinctly indicate the extent of the ancient city. On the west it extended to Windy Wynd, then the boundary turned south along the east side of the mill-dam called the Loch, which had originally been only a burn flowing close to the back ends of the gardens of the houses in the Gallowgate. These had all back gates giving access to the water, and there were lanes in the west side for the benefit of the houses on the east side of the Gallowgate. The Vennel, now St Paul Street, gave the houses in the south end of the Gallowgate and in the north side of Upperkirkgate access to the water. The Vennel had not a gate, but it left the Gallowgate by a pend under a house, and, like other lanes, it could have been barricaded at the west end by booms and chains. From the Loch E'e to the Harbour the mill burn had been the west boundary of the town, both the Upperkirkgate and the Netherkirkgate Ports being beside the burn. On the south side, the town was

bounded by Trinity Burn, the only harbour of the town. We may include the Castle in the town, and take the east boundary along Commerce Street and Park Street to North Street. Prior to 1775, when this street was opened, the north boundary ran along the ends of the gardens of the houses in Justice Street and Castle Street. Turning north-west its course was along the base of the steep ground on the west side of North Street. At the Windmill, on the north side of the long flight of steps, the boundary turned west in the line of Windy Wynd. From the north end of the Gallowgate along by Broad Street, Castle Street, and Justice Street there was anciently no public thoroughfare across the continuous row of houses bordering these streets, and in 1661 every house had its garden behind it. In 1639, when the Covenanters began to levy troops, the citizens of Aberdeen attempted to fortify the north-east side of the town. Ditches were cut from the Windmill along the ends of the gardens to the Castle Hill, and round it to the Harbour. In a short time Montrose entered the city from the west "at the Over Kirkgate Port, syne came down throw the Broadgate, throw the Castlegate, out at the Justice Port, and to the Queen's Links directly." (Spalding's "Memorials.")

Within the boundaries just given there were in all six or seven streets—the Gallowgate, including Broad Street, which originally extended to the west side of the Guestrow; the Upperkirkgate and Netherkirkgate, which gave access to the Church of St Nicholas; the Shiprow, which gave access to the harbour, and to the south by the Bow Brig; the Castlegate, the chief public place in the city; Justice Street, and Futtie Wynd, both short streets, outlets from the Castlegate.

MARISCHAL COLLEGE AND UNIVERSITY.

A college is a combination of schools or classes working together for a common purpose under one head or directing body ; but what is a university ? Cicero used the Latin "universitas" with the meaning of the whole human race. In mediæval Latin the term "vestra universitas" was frequently used to indicate those to whom bulls, letters, and charters were addressed. Used by the Pope it might mean the whole world, over which he at one time claimed temporal power, or the whole Christian world, over which he still claims ecclesiastical authority. Used by a bishop, it meant all the churches and congregations and priests under his jurisdiction. But used in connection with a college, "universitas" had quite a different meaning. It denoted a scheme of study which was in contrast with that in use in the only other schools of learning in the middle ages—the cathedrals. In these the young priests were taught Latin, perhaps Greek and Hebrew too, and theology, and any other branches of learning desirable for a priest to know, and nothing else. In contrast to this a university was a college where the whole circle of knowledge concerning everything that men took an interest in could be acquired :—religion, languages, law, medicine, mathematics, physics, astronomy, plants, and animals. Anciently men had no scruple about undertaking to teach everything that was worth studying, and a university in the Middle Ages better deserved this name than its modern representative. Then it might have been said with some truth that every student learned everything studied at the time ; now we specialise and try to learn much, not many things.

THAY . HAIF . SAID : QUHAT . SAV . THAY : LAT THAME SAV.

This inscription faces the entrant at the main door of Marischal College. The stone which bears it was originally in the first College, and may be taken as an admission on the part of the founder of the University that there was undoubtedly room for making some reflections on the way in which he acquired the wealth that enabled him to establish it : but also as an assertion that, considering the use he had made of it, he was indifferent to what might be said. The founder of

Marischal College was educated at King's College, and he studied also at Geneva; and the inscription may be a Scotch version of a similar sentiment which he had met with in a Greek writer. To account for his adoption of this motto it is necessary to refer to what took place in Aberdeenshire at the Reformation.

THE FOUNDATION.

The Abbey of Deer was founded, according to tradition, in 1219, by William Comyn, Earl of Buchan. In the course of three hundred years it had come into possession of a great extent of land and a great income in the shape of teinds; and when the Reformation was imminent William Keith, fourth Earl Marischal, in 1552 got his second son, a youth of fifteen, appointed abbot "in commendam," or in trust for behoof of the abbey. If the expected Reformation had not come off the abbey would have got back its property. When it did come the monks got pensions and retired into private life; and Robert Keith, the Commendator Abbot, held the abbey lands for the Crown, with a fair prospect of being able to retain them as his own. In 1587 the King erected the abbey lands into a lordship with a peerage called Altrie attached to it, to be held by the Commendator for life, with succession after his death to his nephew, George, Earl Marischal, and his heir or assigns.

Though the Earl came into the possession of the abbey property in a legitimate way the adherents of the old faith naturally grudged seeing the Church property in his hands, and the General Assembly complained that he was not paying the stipends due from the abbey lands to the ministers of the new faith.

In 1592 George, fifth Earl Marischal, resigned Altrie into the hands of King James VI. and got a new inffeftment of the lands and barony of Altrie, which had originally belonged to the Abbey of Deer, and also of other lands in Kincardine, and properties belonging to the Blackfriars and the Whitefriars in Aberdeen, which had passed through other hands before coming into the Earl's possession. Next year he founded the Marischal College and University and endowed it with all that had belonged to the Blackfriars and Whitefriars. The foundation charter represents the Earl as giving the new College all the properties which formerly belonged to

the Greyfriars ; but though he might have got the promise of them from the Town Council they had not at the date of the Charter been made over to him. In the course of the same year they were given to the Earl to be the seat of the new College, and the buildings, which had not been destroyed by the lairds of the Mearns, served for a time all the wants of the new College. The only part of the Convent that survived to modern times was the church, a building originally of great length, but curtailed afterwards to give access to the College.

Not long after the granting of the foundation charter the General Assembly ratified the institution of the University. The Earl had been thwarted in his wish to see King's College remodelled and made better adapted for providing the Protestant Church of Scotland with suitable ministers. This led him to put the new University into intimate connection with the General Assembly of the Church. On July 21, 1593, the Scots Parliament also ratified the foundation of the University, and this completed the erection of the institution.

THE BUILDINGS.

In 1633 William Guild, who had long been minister of King-Edward but had been called to Aberdeen in 1631 to be one of the town ministers, gave over by charter to the Town Council a house which he had bought in front of Greyfriars Church and an arched gateway at the end of it to be an entrance to the College. A few years afterwards the Town Council put up the burgh arms above the gate, but these were afterwards replaced by those of the founder of the University. About the same time Greyfriars Church was shortened 20 feet to improve the entrance to the College, and an aisle was added to the east side for the accommodation of the professors and students. In the charter of the house and gate Mr Guild is styled Magister—that is Master of Arts, which degree he received from King's College. Soon after the date of the charter he is called Doctor of Divinity. There is no record of his having got this degree from King's College, but he may have got it from St Andrews University, as he built St Leonard's College there and bequeathed his library to the University of St Andrews.

In 1633 the Town Council gave the College a backhouse to be chambers for students on condition that the College

gave up to the town all claim to the Greyfriars Church, which thereafter became one of the town churches.

In 1639 part of the convent buildings was destroyed by fire during the night, but by the munificence of Dr Dunn (the Principal), Mr William Moir, and a gift from the Town Council, the damage was repaired before the end of 1642.

As the result of a report by Commissioners appointed to inquire into the state of the Aberdeen Colleges in 1641 Charles I. united the two Universities and gave them a grant from the Scots Parliament of £500 sterling, besides confirming to them the revenues of the abolished Bishopric of Aberdeen. This was confirmed by the Scots Parliament and also by Cromwell, but no change was made in the staffs or teaching of the Colleges, and the Act of Parliament was held to have been revoked by the General Act Rescissory of 1661.

A movement was begun in 1682 for rebuilding part of the College, and this was accomplished about 1700. The stones had come by sea from Morayshire, and the lime doubtless came from the Firth of Forth.

In 1715 the tenth Earl Marischal, Chancellor of the University, joined the Jacobite rebels and was forfeited next year. The Rebellion had a disastrous effect on the College. The doors were closed for two sessions, and when teaching was resumed it was with a new staff of professors. Some additions to the buildings were made between 1737 and 1741 under the direction of William Adam, an Edinburgh architect, at a cost amounting to £700. Soon after 1747 the residence of students within the College ceased to be insisted on by the University and was given up.

NEW BUILDINGS.

New buildings having become necessary the Treasury gave a grant of £15,000, and the work was begun in 1836 and ended in 1844. Within a year a fire broke out in the new building, and the books of the library were carried out and heaped up in the quadrangle; but the fire was got out before much damage was done to the building.

In 1860 King's College and Marischal College were fused into one University; but the two colleges were continued as separate buildings, some classes being held in the one and some in the other, but no subject was to be taught in both colleges.

The old names, King's and Marischal, are still in use for the colleges; but the union of the governing, degree-conferring bodies produced the University of Aberdeen. The united University prospered, and in twenty years a need was felt for more accommodation. The space in front of the building completed in 1844 was too small to allow more buildings there, so an addition was made along the south side of the college. The new building began in 1889, and the addition was completed the following year, at the cost of nearly £11,000.

However, before it was finished, the University Act of 1889 had passed, and it was seen that more building would be required. Additions on a large scale were planned, for which it was estimated that £100,000 would be required. The Town Council promised £10,000, and afterwards more than doubled this. The Government promised £40,000, provided a like sum were raised locally. This was done, chief among the subscriptions being £6000 from Charles W. Mitchell, of Newcastle, the son of Charles Mitchell, of the firm of Sir W. G. Armstrong, Mitchell, and Company, Newcastle, who was a native of Aberdeen.

An addition made on the north side of the original building was carried out westward to Broad Street, and it was completed in 1896. Soon after, the north tower at the end of the north wing was finished. The south side addition was likewise extended to the west, matching that on the north side. Mr Charles Mitchell had subscribed £1000 for the first south side extension, but he afterwards took upon himself the cost of extending and altering the east wing to provide a graduation hall and a students' union, and to heighten the central tower. These, which cost him £20,000 more, were completed in 1895. Ornamental additions to the hall and tower and further subscriptions to the buildings brought up his munificence to Marischal College to £30,594.

Still there remained undone the contemplated west front of the college, and by all it was admitted that the erection of this part must be put off indefinitely; but at the close of his rectorial address in 1900 Lord Strathcona and Mount Royal, with quiet composure, said he was ready to give £25,000 if the University and its friends furnished a like sum. Mr Charles W. Mitchell on the same day announced that he would clear off the debt on the buildings already erected if £20,000 or so would do it. This left new subscriptions free to meet Lord Strathcona's

generous offer, and the funds being thus secured, preparation for the west wing was begun with the removal of Greyfriars Church, the site of which was required for the new building. A new church had to be built by the University for the displaced congregation of Greyfriars, and it was erected at the south end of the west front of the College buildings.

The new College of 1844 and the additions which had been made to it were built of stone from a local quarry, but for the new west front a whiter granite from Kemnay, sparkling with mica, was selected. This, however, would not have harmonised with the duller tone of the buildings facing the Quadrangle, and for the east side of the new part a stone of similar colour was used. By a great effort the new building was completed in time to be declared open by the King on September 27, 1906.

ARMORIAL BEARINGS ON MARISCHAL COLLEGE.

Above the west entrance there are seven shields bearing coats-of-arms illustrating the history of the University. They are arranged according to their importance in this history, the arms of the University itself occupying the centre, the place of honour; but we shall take them in the order of their probable age, because some of the older coats have entered into the composition of newer.

In all arts and sciences technical terms are used for the sake of precision and brevity. In heraldry technicality is carried to an extreme degree, and the description of a shield in heraldic language is often unintelligible to common people. The French language was originally used in this country in describing shields, and many heraldic terms are of French origin. Some terms even retain a French form, and more information regarding the meaning of heraldic terms may be obtained from an old French dictionary than from a modern English. Straining after brevity often results in obscurity, and we have in the City of Aberdeen Arms an example of this. When the Lyon King of Arms grants a coat-of-arms it is given in writing. By paying a sum of money a representation of the coat in colours may also be obtained, but this is of no force, even though done by the Lyon himself. The written description is the only rule of direction for finding what the coat-of-arms really is.

1. THE ARMS OF ABERDEEN (2nd from the right).

The verbal description of the arms of the City of Aberdeen says:—"Three towers triple-towered, within the royal tressure of Scotland. Motto, Bon-Accord." The usual representation of this in drawings is:—Three towers, each with three small turrets on the summit. This answers to triple-turreted, not triple-towered. Probably the first assumption of arms by Aberdeen was soon after it was made a burgh and from what is carved on an old seal of the town the device appears to have been a tower with a walk and a battlement round the top and another tower, also with a walk and a battlement, rising from the summit of the first. This device had been adopted after the erection of the castle at the command of the King. The double tower with two battlements indicates that the castle was well defended. The King did not for a long time interfere with the heraldic badges of his subjects unless they disagreed among themselves, when, in his capacity of judge, he settled disputes. At the Coronation of Robert II. in 1371 the ceremonies were regulated by an official representing the King and styled Lyon because he bore the same arms as the King, a lion. If Aberdeen was in any way represented at the Coronation its delegate had no doubt borne the arms of the city on his dress. It was not till 1674 that the arms of the city had been registered by the Lyon King in his book. The motto is "Bon-Accord," "Good agreement;" and it had probably been assumed early. In 1440 the one double tower of the old seal had been expanded into three, merely for heraldic reasons and not to indicate that Aberdeen had three castles. For the same reason the double tower in 1674 got on another storey. Notwithstanding the length of time that the three towers have been shown with three pepper-boxes on their summits they ought yet to be made three-storey high, if that is the meaning of triple-towered.

2. OLD ABERDEEN (2nd from the left).

A two-lugged flower vase, with three salmon on the side arranged in a triangle, their scales being represented by diagonal trellis work. In the vase are three white lilies—one full-blown in the centre, one half-blown on the right, and one in bud on the left. The lily is the emblem of purity and represents the Virgin, the patron saint of the

Cathedral and of Aberdon. The salmon show proximity to the Don. The motto, "Concordia res parvae crescunt," "By concord a small community increases," recommends harmony in the town.

3. EARL MARISCHAL (3rd from the left).

The shield is divided vertically. On the left side there are at the top three raised pales or vertical bars alternating with three flat bars. The raised bars represent yellow bars, and the flat represent red bars. On the right side there is a lion standing on his hind legs. Above the shield there is an earl's crown. The motto, "Veritas vincit," means "Truth conquers."

4. BISHOP ELPHINSTONE (3rd from the left).

Three boars' heads, ragged at the neck, as if torn off, two above and one below, with a figure like the couple of the roof of a house striding over the lowest. Boars' heads indicate ownership of a wild, extensive hunting-ground. The chevron, or couple, is generally taken to represent the setting up of a new house or branch of an old family. Above the shield is a bishop's mitre. The motto, "Non confundar," "I shall not be overwhelmed," indicates confidence in the day of judgment.

5. ABERDEEN UNIVERSITY (centre).

The shield is composed of two parts, the left representing King's College—the older University—and the right, Marischal College—the younger. In the upper part of the King's side there is issuing from the rays of the sun a hand holding an open book, indicating that the college diffused intellectual light by means of books. Below the book is the flower vase of Old Aberdeen. In the lower part of the left side are the arms of William Elphinstone, Bishop of Aberdeen, the founder of the College. The upper part of the right side contains six pales from the arms of George Keith, V. Earl Marischal, the founder of Marischal College. The lower contains one tower from the arms of the City of Aberdeen. The motto, "Initium sapientiae timor Domini," means "The fear of the Lord is the beginning of wisdom."

6. MITCHELL (1st on the right).

Four meshes of a fishing net, with a wavy band crossing the shield diagonally supporting the net. This coat indicates the possession of land bordering on the sea, or having salmon fishing in a river, and it represents wealth. The shield is surmounted by a helmet with four bars, the mark of an esquire. The motto, "Spernit huimum," "He leaves the ground," is applicable to a man of lowly origin, like Dr Mitchell, who raised himself to wealth and distributed it liberally. His gifts to Marischal College amounted in value to more than £30,000. He died in 1895.

7. LORD STRATHCONA AND MOUNT ROYAL (1st on the left).

The upper part of the shield contains the fore part of the body of a lion on his hind legs, a memento of Lord Strathcona's native country, Scotland; below it are a heavy hammer and a long spike-nail, crossed, mementoes of his laying the last rail of the Canadian Pacific Railway, at Craigellachie, B.C., Nov. 7, 1885; and in the lower part is a canoe driven by four men with paddles, and having a flag in the bow with the letters NW, a memento of the Hudson Bay Company's service, in which he began life. Above the shield is a baron's coronet. The motto, "Agmina ducens," "Bringing troops of people," refers to the railway as a means of bringing immigrants to the Canadian prairies.

THE CHURCH OF NEW ABERDON.

There is in Kennedy's "Annals of Aberdeen" a copy of a bull, bearing by its heading that it is for the erection of the Snow Church. The original is in King's College Munitment Room, and it shows that what appears to be the title is only a docquet on the back in a later hand. On reading the bull it is seen that the docquet does not correctly describe the purport of the bull, which is not for establishing a church but for abolishing it. The name of the church is not mentioned in the bull, but from a document in "Fasti Aberdonenses"—the Records of the University and King's College of Aberdeen—it is seen that

it must have been "The Church of the New Town of Old Aberdon," the new town being described in the bull. The following is a close translation of the bull with its docquet.

Erection of the Church of Snows out of lands formerly belonging to St Machar, 1497.

Alexander, bishop, servant of the servants of God, to [his] venerable brother the Bishop of Aberdeen, welfare and apostolic benediction.

We willingly agreed to the request of well-known honourable men, especially of Catholic nobles, and we follow that up with [other] favours as opportunity serves.

A petition lately shown to us on behalf of our dearest son in Christ, James the illustrious king of the Scots, and of our beloved sons the inhabitants and dwellers in the new town within the bounds of the parish Church of St Machar, outside and near the city of Aberdon, stated that from within a certain time in the said place, in which formerly there were only three or four inhabited houses, by the blessing of God on the industry of the dwellers in them a great number of inhabitants and indwellers of that kind has increased and is multiplied and it is hoped will be multiplied daily, and if in the said place in which the said King James, in order that men may be more induced to live in it, has proposed to proclaim and ordain a public market, in which goods and other necessaries for the use of the people in them could be sold and bought once a week, a parish church, in which now and for all time the inhabitants could hear masses and other divine services, were erected, it would be for the weal of the souls of the inhabitants of the place, and for the increase of divine worship.

Wherefore, on the part both of King James and of the inhabitants and indwellers foresaid as also of our beloved son William Strachakin, a cleric of thy diocese, it was humbly begged of us that we would have the goodness to erect in the said place a parish church, with bell-tower, bell, cemetery, treasury, baptismal fount, and other parochial appurtenances; also to assign for it for its glebe and bounds a place or town with its territory and bounds, and for its endowment to apply and appropriate for ever the tithes, first fruits, and other offerings falling to it as the time serves, and [seeing that] from the said church then thus erected the annual fruit, income, and produce, has not, as is said, exceeded the annual value of four pounds sterling from its first erection, it being then vacant, [it

was begged that] we of our apostolic goodness [would think right] to make provision for the said William, and otherwise make suitable provision in the circumstances.

We, therefore, not having sufficient knowledge of the circumstances, solemnly absolve and hold as absolved both the inhabitants and indwellers themselves and William and any one of them from all sorts of excommunication, suspension, and interdict, and other ecclesiastical sentences, censures, and punishments from law or from man, brought at any time or from any cause, if they are by any persons in any way inextricably mixed up with them, only, however, for carrying into effect this present letter, and we also commit by apostolic letter to thy fraternity all and each of the ecclesiastical benefices, with cure and without cure, which the said William also holds by any apostolic dispensations and expects, and in which and to which he claims a right to himself in any way whatsoever, wheresoever, and of whatsoever sort they may be, and the true annual values of their fruits, incomes, and produce, and we regard the tenors of these dispensations as expressed in the present [letter].

Do by yourself so far as in the circumstances seems right to you to be done, without, however, prejudice to any one, constitutions and ordinances apostolic and others of any kind to the contrary notwithstanding.

Given at Rome, at St Peter's, in the year of the incarnation of our Lord one thousand four hundred and ninety-seven, on the tenth day before the calends of March, in the sixth year of our pontificate.

A lead bull appended to the document has on one side,

†
· A L E
· X A N D E R ·
· P A P A ·
· V I ·

(Pope Alexander VI.)

The other has PA and PE for Paulus and Petrus and two heads with a Latin cross between them.

The sentences of the bull are intricate and elliptical so that it is difficult to discover its purport. The following is given as a summary of the contents of the bull.

The Pope's salutation and benediction.

At a former time the Pope had received a petition from

honourable men to which he had assented, and now he follows up that favour with others when opportunity serves.

The petition had stated that a new town had sprung up outside the episcopal city of Aberdon, where James IV. proposed to institute a weekly market, which would tend to increase the population, and that it would be a good thing to erect a parish church in the town.

A church had been established ; but the average annual income had amounted only to £4 stg., and the church was now vacant by the resignation of the minister.

A new petition had been sent to the Pope requesting him to make provision for the minister, and to say what should be done in the circumstances.

The Pope abolished the erection of the new church, and absolved the parishioners from any obligations they had come under, and the minister from the duty of performing divine service in it.

He made over to the Chapter of the Cathedral the revenues of the church, and left it to the bishop to do what he thought proper in the matter.

Given at Rome, February 20, 1497.

In 1489 James IV. created Aberdon a Burgh of barony, with the right of holding a weekly market, but the right had not been exercised for some time afterwards. In the bull of Alexander given above the institution of a weekly market is spoken of as a proposal. In 1494-5 Alexander VI. granted a bull for establishing a university in Aberdeen and entrusted to Bishop Elphinstone along with others the duties of promulgating the bull and carrying it into effect. The main purpose of the bull was to provide education for young priests. This had hitherto been the duty of the bishop and canons of the Cathedral, and they continued to carry on this work after the promulgation of the bull and the institution of the university.

The University of Aberdeen was, like its predecessors of St Andrews and Glasgow, a religious institution, and the professors were priests who were supported by having assigned to them the revenues of churches as prebends.

In carrying out the arrangements necessary for establishing the university the bishop had thought of instituting a new parish which should exclude the Chanony but embrace the rest of Aberdon and part of the territory of Aberdeen lying south of the Powis burn. The tithes and other parochial revenues he intended to belong to the university and be a prebend for a professor.

From Alexander's bull he seems to have obtained the sanction of the Pope to this arrangement. He seems to have got up a petition to the Pope representing that the King, some of the Catholic nobles, and the respectable inhabitants of the place were desirous to have a parish church on the south side of Powis burn, where, he said, a new town was springing up which would likely grow if a market which James IV. had spoken of were established. Apparently the Pope had agreed to the terms of the petition and a church had been nominally erected, though no buildings had been provided. The revenues from the lands intended to be comprehended in the new parish had been handed over to the incumbent, but they had only amounted to £4 sterling, and it being evident that the scheme was not going to work successfully the incumbent had resigned and the office of vicar of the parish of New Aberdon had become vacant. The bishop had therefore asked the Pope to cancel the erection of the parish and its church and let the incumbent free from his obligations in connection with the church.

The Pope's bull relieved all persons connected with the church from all obligations they had entered into and gave the bishop authority to do as he thought best in the circumstances, taking care that no one should suffer loss from the suppression of the church of the new town of Aberdon. Perhaps the Pope had not been told that it had never had any existence but on parchment.

BISHOP ELPHINSTONE'S SCHEMES.

Several causes might be assigned for the Church of New Aberdeen coming to nought. Bishop Elphinstone seems to have been sanguine and impulsive. None of his schemes prospered at first. According to Boece, though he collected all the materials for completing the choir, he left it unfinished. He got two royal charters for Aberdon, but the project of making it a burgh lay dormant more than a hundred years. He got a bull from Pope Alexander VI. in 1494-5, instituting a university in Aberdon, but there was not a stone laid of the buildings requisite till 1500, and though collegiate teaching began in 1506, it was Bishop Gavin Dunbar who got the university into working order. He schemed a bridge over the Dee; but apparently the whole work of erection fell to be carried out by Gavin Dunbar. If the

burgh scheme, with the market, had been carried into effect, the new parish and church might have maintained existence; but the burghers of Aberdeen would have offered great opposition to a market in Aberdon which would have interfered with their jealously-guarded trading privileges. It is likely that if Bishop Elphinstone had not been called away from Aberdeen on State affairs his local schemes would have been better attended to and brought sooner into operation.

A copy of Pope Alexander's bull is printed in "Scottish Notes and Queries," June 1906.

RE-ESTABLISHMENT OF THE CHURCH.

The narrative part of the bull of Pope Alexander VI. is a heterogeneous mixture of things of different dates, which renders it difficult to understand. In the second part where he speaks for himself there is no difficulty. He says he does not understand the circumstances fully, and he clears the ground by absolving the inhabitants of the new town and William Strachan from all mutual obligations, looses him from his charge, and commits to the care of the bishop and canons all the ecclesiastical benefices and revenues which William Strachan held. This dissipates into nonentity the visionary church of the new town of Aberdon which Bishop Elphinstone had erected on parchment. This was hardly what the bishop had expected when he forwarded to the Pope a petition on behalf of King James (without asking his leave), the inhabitants of the new town of Aberdeen, and William Strachan asking for the establishment of a fully equipped church and parish. Probably he had expected to get a reply which would enable him to appeal to the King and nobles for help in his undertaking. It was not the bishop's way to throw up at a slight discouragement anything which he had taken in hand, and he seems to have been very anxious to secure William Strachan as a professor of canon and civil law in his embryo university. Taking advantage of the last clause of the Pope's reply:—"Do of yourself in the circumstances as you may think fit to be done," he resolved to re-establish the church and to provide it with a parish.

On December 10, 1498, he promulgated a letter patent, the original of which is in King's College, and there is a

copy of it with a translation into English in "Records of Old Aberdeen" (II. 266). He announces that he had received Pope Alexander's bull, which he repeats in full. He then states that after publication of the Pope's letter he had been continuously urged by King James, the gentlemen and inhabitants of the new town, and William Strachan to proceed to execute the commission entrusted to him, and therefore, as the Pope's commissioner and executor he had examined into the matter, and having found everything narrated in the letter to be true, he had by the authority committed to him erected in the new town a parochial church with bell-tower, bell, cemetery, place for holy things, baptismal font and other things pertaining to a parochial church, and had assigned for it a parish and bounds, and also a place for a manse within its territory.

The docquet on the back of the letter is:—"Limitatio Parochie de Nivibus," Bounds of the Parish of the Snows. This docquet had been put on some time after the date of the letter for the church is not mentioned as having actual existence before 1503, when it had been dedicated to Mary of the Snows.

BOUNDS OF THE PARISH OF THE CHURCH OF THE NEW TOWN OF ABERDON.

The following is a translation of the delineation made by Bishop Elphinstone:—"Beginning at the cross of the sanctuary, that is to say the girth cross, and then going straight on by the north corner of the fauld which lies between the Tyleford and the rabbit hill, including the fauld, and from the said north corner of the fauld as far as to the rabbit hill, and from the rabbit hill as far as to the sea, and then going up by the old boundaries and divisions between the land of Setoun and the lands of the hospital of St Peter as far as to the divisions and marches of the College Bounds, and going farther up by the said boundaries as far as the Loch and from the said Loch and going by its margins to the public road on the north side going from the Loch along the lane between the manse of Invernochty and the land of Mr Duncan Shearer, rector of Clat, and then going across the public street to the public lane between the manse of Forbes and our land opposite on the other side, and then going along the wall of the Chanony to the public road at the cross, where the boundary

began, that is to say at the girth cross foresaid, including the whole town and burgh of Aberdon."

We see from the delineation that the Chanonry was not included and that the north boundary ran straight from the girth cross to the Tile ford and thence to the sea, including a small fenced field for cattle or sheep at night, between the Tile burn and the sand hills. The east boundary had been the sea, and the south had been the lands once belonging to the Hospital of St Peter but at the date of the patent letter to the parish of St Peter. The parish included also all within College Bounds east of the public road and south of Powis burn. The west boundary went up Powis burn to the bottom of Bedford Road and then followed its tributary up to the Loch. Following the margin of the Loch for some distance it turned east along Cluny Wynd, crossed the street and passed along the lane behind the Town house to Don Street and then along it to the girth cross, where it began. It may be inferred from the bishop's letter that the royalty of Aberdeen did not go farther north in 1498 than the well on the Links, and that this was also the limit of the parish of St Nicholas. At a meeting of the Chapter of the Cathedral, held on June 1, 1499, it was stated that William Strachan had endowed the vicarage of the new parish. This must mean that he had made an addition to its endowment, perhaps the rent of the house in which he lived which had belonged to him. On this occasion Mr James Brown, dean of the Cathedral and rector of the parish of St Maehar, surrendered to the new parish the teinds of the part of his parish which Bishop Elphinstone had assigned to it in his letter patent.

This was followed on the same day by the formal annexation and perpetual union of the vicarage of New Aberdon to the University and an ordinance that the vicars should lecture in canon law, and that the vicarage should pay episcopal dues like other churches of the diocese. Apparently the new parish did not extend westward beyond the street now called College Bounds. There had been little difficulty in arranging for a site for the church on ground belonging to the rector and chaplain of St Peter's Church, but in 1503 it became necessary to provide also a manse for the vicar, who seems to have lived hitherto in Aberdon or in the Chanonry, whereas vicars were bound to give continuous residence in their own parishes. The vicar had therefore applied to the bishop, who made an agreement with the rector and

chaplain of the Spital Church by which some small pieces of ground were added to the area already belonging to St Mary's Church. The bounds of the whole block were to be :—On the south, the foot of Spital Hill ; on the east, the public road (College Bounds) from a pin at the churchyard ditch at the south to another five and a half perches north of Powis Bridge ; on the north, a line from that pin to a pool on the Powis Burn. The west boundary is not named, but it must have been the Powis Burn from the Firhill Well to the pool on the burn. The whole area amounted to 54 poles.

As the income from the church would be exceedingly small, the bishop added to it the personal tithes accruing to him from the incomes of the professors ; and as a further augmentation he ordained that every student in the University communicating at Easter should pay fourpence to the rector of the church, if he could afford it.

THE CHARTER FOR THE MANSE AND GLEBE.

The charter conveying this ground came into the possession of the University of Aberdeen in 1885, and a copy of it was printed in the "Transactions of the Aberdeen Ecclesiastical Society," I. 21. The following is a translation into English, with a short abstract of its contents. The docquet on the back of the charter is :— "Assignment of a Manse and Personal Tithes, etc., to the Rector of the Snows" :—

William, by the grace of God and the Apostolic See Bishop of Aberdon, to all and each of the sons of the holy mother church who may inspect, see, read, and likewise hear the present letter, or this present public instrument —weal in him in whom is the true weal of all. Seeing that we lately erected the church of the most holy and undefiled Virgin Mary at the Snows, founded anew, into a parochial church and into a rectory or prebend of our new college in Old Aberdon—for a perpetual memorial of this thing; for the weal of the soul of James IV., by the grace of God the most illustrious King of the Scots, and of the illustrious Prince and most reverend father James, by the divine mercy archbishop of St Andrews and primate of the whole kingdom of Scotland, etc.; and for the soul of the illustrious Prince John, Earl of Mar and the Garioch, brothers german of the foresaid supreme lord our King; and also for the weal of our own soul and the souls of our

flocks committed to us; and especially for the soul of the venerable and most respected man Mr James Browne, bachelor of theology and a most worthy man, and also dean of the cathedral church—the rector or vicar of theforesaid church [of the Snows] at the time, shall celebrate or cause to be celebrated on the day of our death or decease the exequies for the dead and a mass on the morrow in the same parochial church, reverently and decently, with tolling of the greater bells and invitation by the small bell through the town on the day before [the funeral]; and also for the soul of the very learned man Mr James, and the souls of his parents with like circumstance, solemnity, and show as for our own soul, that is to say, on the day of his exit from this world theforesaid rector will celebrate or cause to be celebrated the exequies for the dead, a mass on the morrow with tolling of the bells as aforesaid, and invitation by the small bell through the town on the day before [the funeral], with services and exequies of this sort to last for all time to come. And because we have endowed our same church of St Mary at the Snows with certain fruits, rents, and incomes as was suitable by the Papal authority given to us for this express purpose, and have invested the same [church] with real, actual, and corporal possession of the same: but since rectors or vicars of the said church are, on account of the greatest weal of the souls of the said church from the sacraments of the church, at the due time of their collation, bound to continuous residence, just as by law they are bound to reside, it seemed to us opportune and expedient, with consent of our Chapter and mature deliberation at consultation and requisition, which we knew would be just and consonant to reason, of a venerable man, Mr William Strathachine, then rector of the said Church of St Mary at the Snows [we have assigned and united] all and whole the small bits of land near the said church [bounded] by the foot of the hill, to wit, the Spital hill, on the south, and the public road on the east side of the said [church], and at certain wooden marks fixed in the ground, to wit from [a mark at] the ditch of the churchyard [at the south to another] five perches of land from Powis Bridge going north, and from it going west to the marsh, narrower at the back than at the front, extending in whole along with the church and churchyard to fifty-four perches in length and breadth (that is area) for a glebe and manse to be built, or already built, with consent and assent of the respectable and discreet men,

Mr Patrick Ramsay, presbyter, rector of the Church of Spital, and Mr Matthew Pacock, chaplain of the said church, then possessors of the said [lands], who being there present upon the soil of the said lands in presence of the notary and undersigned witnesses freely gave their consent and assent irrevocably for the future for themselves and future successors whomsoever, in honour as has been said of St Mary the Virgin and of all saints, we have assigned and united just as by the present [letter] we assign and purely and simply give and concede all and whole the foresaid [lands] with their pertinents by all their bounds and divisions as they lie in length and breadth, with all and each of the conveniences, profits, and pertinents of these lands which it is possible to be held from lands and manse of this sort in any way in future; as freely, quietly, peaceably, well, and in peace as any rector or vicar within our diocese holds and possesses his glebe or his manse or had or possessed at any time before our foresaid donation and concession: and moreover, foreseeing and knowing that the fruits and incomes of the said church will be slender and poor or meagre in order that the divine worship of God may be able to be carried out by the foresaid [rectors and vicars] respectably, reverently, and honourably as it ought to be, induced by piety and mercy in augmentation of the foresaid as we are bound to give and concede with the advice, consent, and assent of our said Chapter, our benefit and advantage on all hands being foreseen and considered, all and each the tithes pertaining to us personally from our new College to the foresaid Church of St Mary at the Snows in perpetual alms; and considering that when in the said church the scholars or students of our said college are about to receive the paschal Sacraments it is fair and just that the said church be remunerated from their goods and alms, the Apostle saying that if we sow for you spiritual things wherefore may we not also reap temporal things: and by the moral law there is the duty of doing good to those who do good [to us], and we are bound to do good: Wherefore we ordain and statute that every student in our said new College shall pay to the said rector of St Mary and his successors, rectors, or vicars of the said church and others living in places within [the bounds of] our said university, every year, to wit at the Paschal feast, four pence: and with the poor the said rector or vicar shall compound amicably. In faith and testimony of all and each of the foregoing our authentic seal along with the Common Seal

of our Chapter is appended to this letter, along with the signatures of said rector and chaplain of the said Church of Spital, in greater evidence and proof of the consent of the same. Concerning and upon all and each the foresaid Mr William, in the name of the church and in his own name, asked from me, notary public undersigned, to be made for him one or more public instruments. These things were done a short time ago upon the soil of the forewritten grounds at the fourth hour or thereabout after midday in the year of the Lord One Thousand Five Hundred and Three, and on the Twenty-ninth day of the month of May in the sixth indiction in the eleventh year of the pontificate of the most holy father and lord in Christ our lord Alexander VI. by the divine providence Pope.

Present there the venerable and honourable, distinguished and respectable men Mr David Guthrie, LL.D., and provost of Guthrie, and canon of Aberdon; Robert Blindseile, burgess of Aberdene; Andrew Elphinstone of Selmys, and Laurence, his son; William Portar, burgess of Aberdene; Mr John Strathachin, notary public; Alexander Joffrasone, and John Pyot, burgesses of Old Aberdon; Patrick Levyngstoun, and Alexander Werdlawe; witnesses, summoned and likewise asked to the foregoing.

And I, Alexander Galloway, notary public . . . have signed and published this instrument . . .

(Signed) Alexander Galuidianus, Notarius.

I, Mr Patrick Ramsay, consent to the foresaid, and ratify the premises, witness my own hand.

I, Matthew Pacock, consent to the foresaid, and ratify the premises, witness my own hand."

In this charter the Church of the new town of Aberdon is called the "Church of the Most Holy and undefiled Virgin Mary at the Snows." In Latin it was called "Ecclesia Beatae Mariae ad Nives. Locally it was called the Snow Church, the Snaw Kirk, or simply The Snaws or the Snaw.

The name was given to the Church at its dedication to the Virgin Mary when it was built in commemoration of the miracle wrought by her in indicating by a fall of snow in summer where a new church should be built at Rome. The church was now called "Ecclesia Beatae Mariae ad Nives," the Church of St Mary at the Snows.

The church called Santa Maria Maggiore on the Esquiline Hill at Rome is very old, so old that in the 12th century everything connected with its origin had been forgotten.

Then a legend accounting for its foundation became current at the church itself, but it was not generally known in Rome till the 14th century. It gave rise to holding the 5th of August as the feast of the dedication of the church, and in the 16th century Pope Pius V. made belief in the miracle an article of faith.

THE LEGEND OF "THE SNOW."

The legend of "The Snow" says that in the 4th century a certain Roman named Giovanni Patricio, or John the Patrician, being childless, he and his wife prayed to the Virgin Mary to direct them how best to dispose of their wealth. She appeared to him in a dream on the night of August 5, A.D. 352, and commanded him to build a church in her honour in a spot on the Esquiline Hill which would be indicated to him by being covered with snow, while the surrounding ground would be bare. On telling his dream to his wife he found that she had seen the same vision. They went to the reigning Pope Liberius to tell him, and found that he also had seen the vision. He set out with them, attended by a procession of priests, and they found a spot on the summit of the Esquiline with snow upon it, though August is a warm month at Rome. The Pope traced out in the snow the plan of a church, and it was built there and dedicated to the Virgin. The legend seems to be founded on an incident in the history of Gideon related in the Book of Judges; but some writers have suggested that *ad Niv* may have been a mistake of some one who found in an old and almost illegible charter the site of the church described as being *ad Esqu*, being on the Esquiline, or *ad Liber*, because it was also called *Liberiana ecclesia*, the Liberian Church. It is said there was a meat market, called in Latin *Macellum Liviae*, at the place where the church was built, and hence a possibility of *ad Liv* being in a charter describing its site, and of this being taken to be *ad Niv*.

The story rests on the authority of manuscripts belonging to the church, and of Peter de Natalibus, a collector of worthless legends who lived in the 15th century. The miracle is first mentioned by Pope Nicholas III. in 1287. Gregory XI. sanctioned belief in it in 1371, and Pius II. in 1453. The original legend said the earth opened of its own accord for the foundation when Liberius

began to dig, but this part of the story was expunged by Pius V. from what the faithful were enjoined to believe.

The feast of the dedication of Santa Maria Maggiore is in the calendars of some Continental churches, and in the Gotha Almanae, in which it is entered Mar. N. on August 5; but it is not known to be observed in British churches.

Dr Joseph Robertson, in his "History of the Reformation in Aberdeen," says when speaking of the churches in Aberdeen at the Reformation—"The Parish Church of Old Aberdeen, called the Snow Kirk from its dedication to Maria ad nives or ex nivibus, so called from a superstition not more blasphemous than indecent." This strong language has led many to think that there must have been allusion to some immorality in the legend, of which there is no trace. He must have meant that it was blasphemy to ascribe the selection of the site to the miraculous intervention of the Virgin Mary and that the Pope's conduct was unbecoming in one of his dignity going in procession to the Esquiline in consequence of a dream.

As a parish St Mary at the Snows was unnecessary and utterly useless. Its erection was a transparent device for providing not only an income but a status for a professor in the new College; but another purpose was to secure on a permanent foundation the celebration, with some pomp, of an annual anniversary soul mass for the bishop himself. The charter settles a long standing question regarding the birth of Bishop Elphinstone. In an unobtrusive way, it shows that he was a bastard. He provided for soul masses for his friend James Browne and his parents; but no parents are associated with him in the provision for his own soul mass. In the eye of the law he was "filius nullius," nobody's son.

VICARAGE OF NEW ABERDON UNITED TO THE UNIVERSITY.

College in the name King's College originally meant Collegiate Church. All the professors in the University had been officials of the Church of St Mary of the Nativity, which had been the only lecturing room in the University.

The parchment church of which William Strachan had been incumbent before 1497-8, mentioned in the bull of Alexander VI., had no connection with the University though he might have taught in the Cathedral or in his own house in connection with it, nor had the church of

which he became vicar in 1498. Bishop Elphinstone seems to have been anxious to have him on the university staff and his vicarage was united to the University on June 23, 1499. It was then determined that the vicar should be a reader in canon law. Hence it may be inferred that William Strachan had taught this branch of learning in connection with the University. However, it is not stated in the University records what office held, and in 1503 when we next learn anything definite of the University David Guthrie was Professor of Canon and Civil Law, and William Strachan is styled rector of the Snow Chureh. He is not mentioned afterwards. By this time both the University Church and the Chureh of St Mary of the Snows had been built.

THE SNOW CHURCH BEFORE THE REFORMATION.

In Bishop Elphinstone's first foundation of the Collegiate Church or College, dated 1505, the sixth master was to teach Latin grammar, and he had the Parish Church of St Mary ad Nives for a prebend. He and other four were to have manses out of the College, but all the other masters were to eat and sleep within the College. Before long, however, the bishop had assigned the prebend of St Mary to the reader or lecturer in canon or ecclesiastical law, for in 1513 one canonist holding this prebend died and another was appointed in his stead, with the burden of five marks to the grammarian out of the prebend; and in 1516 another canonist was appointed, holding the same prebend.

In 1531, Bishop Gavin Dunbar, with consent of the Chapter, confirmed a new foundation which had been left unexecuted by Bishop Elphinstone. Though there were many changes in it, the prebend of St Mary's was left with the canonist, who was taken bound to expound canon law every reading day, either in his manse or in the Church of St Mary ad Nives, wearing his doctor's dress. He was to have a temporary vicar, that is one not on a permanent foundation, who was to get forty merks out of the fruits of the benefice yearly; and the prebend was liable also for five merks to the grammarian, who had other fifteen merks from the common fund. The grammarian was bound to teach Latin grammar, poetry, and rhetoric to scholars in his own manse. The canonist now held the office of parson of St Mary at the Snows, and all future canonists seem to have been actually, or nominally, parsons of the Snow Church,

and to have drawn its revenues as their incomes. The following list of pre-Reformation canonists and parsons of the Snow Church has been made up from "Fasti" lxxx., 73, 75, 297 ; "Register of Arbroath, II." ; "Officers and Graduates of King's College," 29 :—John Lindesay, Henry Spittall, Alexander Lowson, Arthur Boece (brother of the historian), Walter Boece (do.), Alexander Galloway, John Sinclair, John Spittell, John Leslie (afterwards Bishop of Ross.)

THE SNOW CHURCH AFTER THE REFORMATION.

At the Reformation divine service ceased in the Snow Church, but the parson continued to draw two-thirds of his former income and to lecture on canon law. There was long great difficulty in procuring ministers for even important charges, and the Snow Church had been allowed to remain vacant, but canonists had always borne the title of "Parson of the Snaw," because from it they drew their income.

In 1583, considering that the parishes of Snaw and Spital, lying in the middle of St Machar, were too small to be able to maintain ministers of their own, King James VI. united them to St Machar, and ordered the parishioners of the two small parishes to repair to the Kirk of St Machar as their parish church. The two small churches had been left uncared for since 1560 and had become ruinous, but people had continued to go to them, probably every morning and evening, to say their prayers. The King's order called this abusing them to superstition and idolatry, and to put a stop to it he directed the ruinous churches to be taken down and the walls and timber to be used in the repair of the Church of St Machar, which, as he said, was a great and costly work.

Though the Cathedral was a parish Church with the dean for its rector and ought to have had a minister of its own, the King had, in 1579, sanctioned an arrangement by which the former dean was pensioned off by the University, and all the revenues of the deanery of the Cathedral and of the rectory and vicarage of the parish Church of St Machar were transferred to the University for ever. The University was then the parson of the parish, and could appoint a vicar or discharge the duties of the office through some of its own members. When, therefore, in 1583, James united the kirks and parishes of Snaw and Spital to St Machar, they, too, were incorporated with the

University, and probably the Crown did not claim the two-thirds of the income of the Snaw kirk and parish, to which it was entitled by law.

When the Covenanted Assembly met at Glasgow, November 21, 1638, a portion of the Senatus of King's College sent to it Mr John Lundie, master of the Grammar School in Old Aberdeen, to represent the University. Going beyond his commission, he gave in a petition desiring Mr James Sandilands (canonist), the chantor, chaplains, and choristers to be removed from the University as unnecessary members living upon the College rents, having been unlawfully brought in by the late Patrick Forbes, Bishop of Aberdeen. The petition was received, and a committee was appointed to visit the College. The committee met in Greyfriars Church, Aberdeen, April 2, 1639, and having got subscriptions to the Covenant resolved to visit King's College in a few days. At this second meeting the chantor and the canonist were deposed as unprofitable members of the College; but the latter, Mr James Sandilands, applied to the next General Assembly and was reinstated, though permitted to teach only concerning marriages, wills and teinds, the other subjects of which he formerly treated being held to "smell of popery." In April, 1640, he demitted his office of canonist at a meeting of the Senatus of King's College, on the understanding that he should be appointed to the vacant office of civilist or lecturer on common law. This seems to have been the abolition of the joint office of canonist and parson of the Snow Church, for in 1664, at a visitation of King's College, it was found that there was then no canonist and no necessity for a professor of that subject. ("Fasti," 230).

THE "SNOW" CHURCHYARD.

After the Reformation, the Snow Churchyard was ploughed and cultivated, but the church was allowed to stand, even though the King had expressed a wish that it should be taken down. This was not done till 1640, when Dr Guild was made Principal of King's College. Says Spalding—"Memorialls of the Trubles," I. 349:—"The first wark that he began wes, he yokit George Ronald, mesoun, to the Snaw Kirk, and kest down the wallis thairof, sic as wes standing, and causit transport the stanes to big up the colledge yaird dykes, and to

employ the hewin wark to the decayit chalmer windois within the said houss; whairat many Oldtoun people mvrnnurit, the same being the Paroche Kirk sumtyme of Old Aberdeen, within the quhilk thair freindis and foifatheris war bureit." In a note to this sentence Dr Stuart, the editor of the "Trubles," says—"The Church of St Mary ad Nives in Old Aberdeen was founded by Bishop Elphinstone in virtue of a bull from Pope Alexander VI., dated 1st March, 1497." Like many more, Dr Stuart had read little more of the bull than the docquet on the back of it, or he would have seen that the Church of St Mary ad Nives is not mentioned in it. Spalding's statement shows that, though the churchyard had been diverted from sacred to common use, the old church had been used as burying place and from "Fasti," 431, we see that the site of the church continued to be used after the walls were demolished. In 1671 it was appointed by the Senatus of the College, to which the churchyard of Snaw still belongs, that eight pounds Scots should be exacted for every person buried in the Snow Kirk, and one dollar for every person buried in the kirkyard, unless the principal and masters of the College should order otherwise, and the beadles of the Cathedral Kirk were to be forbidden by the Session to open ground till these rates were paid, which had to be accounted for to the College.

There is no vestige of the Snow Church to be seen now, but the small area which it occupied is still used as a burying ground by Catholics. Many of those interred in it are probably descendants of those who worshipped in the church 400 years ago. The original gateway from College Bounds into the churchyard is still in existence, though now built up, and above the arch may still be seen a bishop's mitre and a shield bearing three boars' heads and a chevron, the coat-of-arms of Bishop Elphinstone, the originator of the Church of St Mary at the Snows.

THE SIXTH WATER SUPPLY.

ST NICHOLAS STREET RESERVOIR.

Having lost the Denburn supply by removing the connecting pipe, the only thing the Commissioners could do was to make the best use of the supplies they had. To economise on the low course, which ran waste during the night, a reservoir was erected in 1821 at the Police Tax Office, then in St Nicholas Street, north of Flourmill Brae.

THE DROUGHT OF 1826.

The summer of 1826 was very hot and dry. Harvest was completed in general before the middle of August ; but many farmers, finding their crops too short to be reaped, put their cattle on the corn fields to eat them bare. For a fortnight there was not a drop of water at the public wells of the upper course, day or night. It must have been at this time that the deep well was sunk at Carlton Place. The Water Commissioners, being unable to do anything else, attempted to lay down a lead pipe of the same diameter and in the same track as the Denburn pipe removed in 1807. They were interdicted by the Brewery Company and the Town Council, both of which were interested in maintaining the full supply for the mill. These objectors based their right to object on the ground that after January 1, 1820, the Commissioners had no power to carry out any works. The Commissioners took advice and were informed that they could lawfully take as much water from the burn as had been taken before 1807 ; but they thought this not worth fighting for.

NEW SUPPLY WANTED.

The Commissioners sought for more water in several places. The Loch of Skene was examined, but the Burn of Echt which fed it was found to be as brown as porter. The Burn of Culter, which issues from the Loch, was not much better, though joined by another burn after leaving the Loch. The Canal was thought of, but it was found that the supply would need to be taken off at Stoneywood, four miles and a half from the town. The only feasible source was found to be the River Dee, and it was selected. But

there was considerable objection on the part of the proprietors of new houses, who said they had been at the expense of digging pump wells for themselves, and they therefore objected to being taxed for water which they did not need.

BRIDGE OF DEE SCHEME.

In 1829 a new Police Act was obtained for sewerage and for bringing water from a haugh beside the Dee, on the west side of the bridge on the south turnpike road. A well was sunk in the haugh on the north side of the river, 660 yards above the bridge. It was twelve feet in diameter, and it was surmounted by a house of the same height. From it a tunnel was extended westward for 200 yards, but not communicating directly with the river, so that only filtered water might be got for the town. The well, the tunnel, and the house still remain intact; and the house is now the only visible thing remaining of all that was done under the Act of 1829 in connection with water for the town.

In case the tunnel should not collect sufficient water power was given to make another tunnel extending southward to the Dee, which would without doubt have secured abundance of water, though it would not have been filtered. From the well an iron pipe two feet in diameter conveyed the water across the turnpike to an enginehouse on the east side of the road. There two steam engines, supplied by Watt and Boulton, drew water from the well and forced it through a 15-inch pipe along Holburn Street to a Waterhouse at the head of Union Place. This Waterhouse now forms Nos 478-484 Union Street. As an experiment an engine was put to work as soon as the main pipe was laid to the Waterhouse, and 1000 gallons per minute issued from the town end of the pipe, and ran down Union Street to the Denburn.

There was a reservoir in the upper part of the Waterhouse, from which the water was distributed through the town by gravitation. For the higher parts of the town the surplus at the reservoir was used to drive a wheel which raised a portion 25 feet higher. By the two pumpings this portion was raised 160 feet above the Ordnance Survey level of the sea. The new supply was ten times the former and the pumping engines did not require to work more than six hours per day.

Till this supply was obtained there was no possibility of

THE PILLAR WELLS.

supplying water to private houses. Baths and water-closets were unknown things. In the streets there was, however, no lack of cast-iron pillar wells, with a lion's face on the front, and a short brass pipe projecting out of his mouth. On pulling down a lever weighed at the inner end a stream of water issued from the pipe. So much was the abundant supply of pure water appreciated that it was a common thing to see a man with a hand on the lever and his mouth at the pipe. On New Year's Day morning at the last stroke of twelve there was a mouth at every well to drink the "cream" of the water, which was believed to bring luck for the rest of the year.

"THE MANNIE IN THE GREEN."

In 1852 the cistern well from the Castlegate (the well surmounted by the figure of a "Mannie") was shifted to the Green. Till then its well had been supplied from Gilcomston Well, near the Brewery; but, while this connection was maintained, another pipe was put in connecting it also with the Bridge of Dee water. By turning a handle to the right or to the left the discharge pipe could be made to yield either spring water or river water, whichever might be preferred for a drink. The pillar wells were economical as they prevented waste of water. This was an important matter, because, though the tunnel took in a large quantity, it had all to be pumped up 135 feet at least, and latterly the engine expense amounted to £1200 a year, mainly for coals. To save expense for coals the former supplies were maintained, and on Sunday, when the consumpt of water was small, the Broad Street reservoir overflowed, and a considerable current of water issued from the Waterhouse, and ran eastward along the street gutter.

When new houses were built water was taken in by lead pipes from the mains in the streets. Old houses also began to be provided with water, and the consumpt increased year by year independently of the increase of the population. This required more work from the engines, and in 1851 they had to work 22 hours a day to furnish a million gallons of water; and before the next supply was got the engines were going day and night, with only an hour of a rest, and sending to the Waterhouse about a million and a quarter gallons daily.

THE SEVENTH WATER SUPPLY

CAIRNTON.

The water supply from the haugh above the Bridge of Dee, provided for by the Act of 1829, was introduced in 1831. Though deemed ample at first it was found to be too scanty before it had been twenty years in operation. The pumping engines had been provided with larger cylinders; steam of higher pressure had been applied to the engines, and they were kept working nearly the whole day. The second tunnel provided for by the Act had been constructed southward from the first into a bank of gravel in the edge of the Dee. By these arrangements more water had been delivered at the Waterhouse; but the population had increased, and when private supplies were granted to houses more water per head was used, and waste could not be altogether prevented.

NEW SCHEMES PROPOSED.

In 1855 the population, which had been 73,000 in 1851, was believed to have risen to 75,000, and the consumpt of water was 16 gallons per head. It was found also that by internal incrustation of iron oxide the diameter of the iron pipe conveying water to the Waterhouse had been reduced from 15 inches to 13. Mr James Simpson, civil engineer, London, was called to Aberdeen to advise the Commissioners of Police. He propounded several schemes for obtaining more water. First—an aqueduct 20 miles long, beginning at Paradise on the river Don, 280 feet above the sea, and ending at a reservoir at Hilton, above 200 feet up. There were two tunnels on this route, both over a mile long, and the water was not quite satisfactory; therefore he did not recommend it. Second—an aqueduct, $21\frac{1}{2}$ miles long, beginning at Potarch Bridge on the river Dee, 264 feet up, and ending in a reservoir at Springbank, 200 feet up. This scheme dispensed with all pumping, because it was expected to deliver water at a height sufficient to reach the greatest elevation to which the city was likely to extend. The cost was estimated at £112,530, and the supply at 5,000,000 gallons daily. Third—an aqueduct 19 miles long, beginning

at Cairnton on the Dee, 210 feet up, and terminating in a reservoir at Springbank, 155 feet up. By this scheme engine power was necessary to pump water to the higher parts of the city. The cost was estimated at £110,860, and the supply at 5,000,000 gallons daily. Fourth—a supply taken direct from the Dee above the bridge and pumped by high pressure condensing steam engines to elevated reservoirs and filters at Springbank, 200 feet up. The cost was estimated at £107,200, and the supply at 2,500,000 gallons daily. Mr Simpson discussed several other schemes which showed that he had overlooked no feasible scheme of supplying the wants of the city from the neighbouring rivers. He indicated his preference for the Potarch Bridge supply, both on account of the superior quality of the water and its freedom from the complication of pumping and filters.

The cost of all the three schemes of supplying the city from the Dee was so great that the citizens were deterred from adopting any of them at once, especially as there was still unpaid a part of the money borrowed for the Bridge of Dee scheme.

ADOPTION OF THE CAIRNTON SCHEME.

In 1861 Mr Alexander Anderson, the Lord Provost of the city, called a meeting of the citizens to decide whether or not a supply of water should be brought to the town from Cairnton. The proposal was approved by a large majority. The Lord Provost and many others would have preferred the Potarch scheme, but it was not brought before the meeting, having been rejected by a Committee of the citizens who had been considering the water supply question for a long time. A bill for an additional supply of water, sewerage, and the manufacture of gas, and for vesting the management in the Town Council was prepared and introduced into Parliament in 1862, and it was passed on the 7th of August that year.

The new Act authorised 6,000,000 gallons to be taken daily. The estimate of the expense of the waterworks authorised by it was £115,000, and there still remained at the passing of the new Act nearly £20,000 of debt on the former water account.

The works were begun in 1864 and completed in 1866, and they were opened by Queen Victoria at Invercannie on 16th October of the latter year. They consisted of an

intake at Cairnton and an aqueduct about 19 miles in length, with a fall of 2 feet per mile, to a reservoir at Mannofield. The aqueduct is constructed of brick. It is oval in shape, 3 feet 9 inches high, and 3 feet 2 inches wide. In some places a cast iron pipe 3 feet 4 inches in diameter and 1 inch thick was substituted for the brick tunnel. The burns at Crathes and Culter are crossed by inverted siphon cast-iron pipes. At Cults hydraulic rams driven by water from the aqueduct, with a fall of 135 feet, raise water to a reservoir 400 feet above the sea, which supplies the higher parts of the city. Two gallons passing through the rams raise nearly one gallon to the reservoir. A mile below Cairnton is the Invercannie settling reservoir, where sediment is deposited and where the water was formerly filtered before entering the main aqueduct. It is 445 feet in diameter at the water level and 14 feet deep; and it can hold 12,000,000 gallons. The first Mannofield reservoir is 270 feet in diameter and the depth of water is 18 feet.

EXTENSIONS AND IMPROVEMENTS.

In 1861 the population of the city was 75,198, and the consumpt of water was 1,250,000 gallons daily, about 16 gallons per head. In 1871 the population was 89,554 and the consumpt was 3,131,514 gallons, or nearly 35 gallons per head. The great increase was due to the introduction of water-closets and baths. The population of the city continued to increase, but the consumpt of water per head increased still more rapidly. In 1885, when the population was about 133,000, 6 million gallons, the whole amount of water authorised to be taken from the Dee, was passing down the aqueduct. Some of this quantity was used at Cults, and some was used for various purposes other than domestic use; but the alarming increase led to obtaining a new Act of Parliament in 1885. By it power was got to take from the Dee 8 million gallons daily, and greater storage was provided. A new reservoir at Mannofield, twice the size of the first, was provided for the low service of the town, the two holding 18,000,000 gallons at 168 feet above the sea. A low service reservoir holding 2,500,000 gallons was provided at Cattofield, at 155 feet above the sea, and for places above that elevation but under 400 feet a mid service reservoir holding 6,000,000 gallons was provided at Slopefield, 308 feet up, to which water is forced by steam engines at Cults. This relieved the

hydraulic rams at the river side of a great part of their duty, with a saving of much of the water used by these rams. The filters at Invercannie reservoir had been prepared at first for cleansing 1,500,000 gallons daily. Mr Simpson's scheme presumed that additional filters would be provided as required, but this part of his plan had not been carried out; and to have made provision for filtering the enormous increase would have been a very costly work. It was resolved, therefore, to dispense altogether with filters and to send to the city the water of the Dee as it is taken in at Cairnton. It is, however, passed through a screen at the intake to exclude leaves, etc., and through two successive screens at the settling reservoir at Invercannie, one with 20 meshes to the square inch and another with 440. To prevent minute living things from escaping their search and afterwards growing larger the water passes through other small mesh screens at the distributing reservoirs near the city.

PRECAUTIONS AGAINST WASTE.

At the same time as these improvements were made it was seen that there must be a great waste of water in the city; and in two or three years the additional 2 millions got by the Act of 1885 were going out of the reservoirs. To endeavour to detect where the waste was meters were put on branches going off from the mains. It was known how many people each branch had to supply, and these meters told how much water each branch needed every day of the week, and how many gallons passed through the meters every hour of the day and the night. If a branch pipe is passing more water than others it can be seen whether the consumpt is the same on Sunday as on Monday, and the same at twelve o'clock at night as at twelve mid-day. An iron rod put in at a hole in the street with one end on a water pipe and the other in the ear of the waterman will tell in what house the waste or leakage is, and offenders can be detected before they know that they are suspected. By adopting these meters the consumpt of water per head was reduced from 55 gallons in 1889 to 44 in 1891, and it has been reduced since to $42\frac{1}{2}$.

Water-closets are not mentioned in the Act of 1829, but that of 1862, section ccc., gives the Town Council power to require the owner of every house where there is water within ten yards to introduce water from the street pipes

into the house, and to fit up a sink in some recess on each floor of a house let to separate families, and also to provide a sufficient water-closet for every house, wherever practicable, with soil-pipes leading to the nearest drain; and this has to be done to the satisfaction of the Town Council. Some architects of houses plan them so that everybody shall see that they have complied with the law, and bring large soil-pipes down the walls close by the dwelling-house doors. Some persons would not live in such houses even though they got them rent free, nor even in a house within sight of such suggestive pipes. The Town Council should have a care in passing plans of new houses to see that they will not be offensive to the neighbourhood.

The exercise of the powers conferred by section ccc. has almost abolished dry closets, and though this is not to be regretted it has tended to augment the daily consumpt of water. It has also removed the need for pillar wells in the street, and they are no longer to be seen in Aberdeen; but some of the Aberdeen pillar wells may yet be seen in the streets of Fraserburgh.

THE QUALITY OF DEE WATER.

Dee water is remarkably pure. A visible impurity occasionally present is caused by water trickling down hill sides and entering beds of peat-moss. After a few rainy days dark brown water flows from these mosses. It is offensive to the sight but not injurious to health. As the reservoirs have a capacity of 27 million gallons, and the daily consumpt is under 7 millions, the river supply may be shut off for two or three days when the water is discoloured. When the discolouration lasts long the water must be taken, such as it may be. If this were a serious matter, it could be cured by draining the peat mosses and the places above them, so that the rain water would not sink into them. If the mosses were dried the peat could be burned off in summer. This was once much practised in Aberdeenshire in order to get the site of the mosses brought into cultivation.

The other impurities are chiefly bi-carbonate of lime, carbonate of soda, and chloride of soda (common salt). Bi-carbonate of lime, or calcium bi-carbonate, comes from the rocks and soil from which the water flows. It is small in quantity but quite easily made to show itself. If a person when washing in the morning put a loaf-full of

water on his head and then rub it with a bit of common washing soda (sodium carbonate) the hair will become white with froth. The soda and the oil secreted by the head to lubricate the hair unite and form soap. If, now, water be put abundantly on the head, the froth disappears, and in the washing basin we see white flakes. These are not scales from the head but particles of lime soap. The lime in the water has decomposed the soap on the hair and taken up the oil in it, forming with it white flakes of insoluble lime soap. There is lime in Dee water as in all water which has touched the ground, but the quantity is very small. The water of many of the large rivers of the Continent is very destructive of soap. This property is called hardness. It is caused also by carbonate of magnesia, of which there is little in Dee water; what there is comes from serpentine rocks, of which there are some in Glenmuick. The hardest water known is that supplied to Hartlepool, which is pumped from a deep bore sunk in magnesian limestone rock.

Chloride of soda is the product of the union of chlorine gas, sparingly distributed in the atmosphere, descending in rain and uniting with the soda set free in the decay of rocks. Chemists first test water submitted to them to see if the amount of salt present is normal or above it. If normal it is a clear indication that the water is not polluted by sewage, for all the salt carried into a town leaves it again in the urine of the population. The water of the Tagus, at Lisbon, contains much salt, due to the populations of the towns whose drainage enters it. If the salt is above the normal and cannot be traced to brine springs, this a sign that the water has received the sewage of a town. Water from ground within five miles of the sea is salter than from inland springs and streams.

SEWAGE CONTAMINATION.

Of nitrogen, either in ammonia or in nitrates, there is very little, and that little has originally come down as nitric acid in rain, being the product of oxygen and nitrogen in the air, made to unite by the heat caused by the passage of lightning through the air. Nitrogen in water, present either as in ammonia or in nitrates, is usually regarded as disqualifying it for domestic use. But there is no harm in the nitrogen itself. It is, however, an indication that sewage, which is always nitrogenous, may

also be present, and if there is, the water may contain germs of organic bodies capable of causing serious disease.

Of late, allegations have been made that the water of the Dee is contaminated with sewage. Since the Dee water was first taken to Aberdeen the population of the area above Cairnton has decreased in the rural parishes and increased in those where there are towns and villages. On the whole it has not varied much, and the gathering together of the population has been in favour of the purity of the river, for it has led to the formation of Special Drainage Districts, whose sewage has been excluded from the river till it has been filtered and purified.

THE AVON SCHEME.

In 1909 the Town Council brought a bill into Parliament for a supply of water from Glen Avon. The scheme provided for 20 million gallons per day, at a cost of £1,400,000; but till there should be a great increase of the population only 12,000,000 gallons were to be taken, which it was estimated would cost £1,068,000. The Avon Scheme was opposed by the Railway Companies, Land and Property Associations, Manufacturers and Private Citizens. The Railway Companies wished a guarantee that not more than 1/- per thousand gallons should be exacted from them; some citizens said they would not agree to an increased supply unless it were shown by the census of 1911 that the population of Aberdeen had increased since 1901; and some thought that an increased supply could be got from the Dee at a moderate cost. Though a majority of the citizens favoured the Avon scheme the bill for it was refused by Parliament mainly on the ground that it had not been fully put before the ratepayers or adopted by them.

A committee was appointed in 1910 to ascertain from eminent engineers the cost of a supply of 10 millions of gallons from the Dee. Messrs. Fox, Yourdi and Bateman were appointed, who reported that it would cost £777,000. Thereupon Sir Alexander Binnie, the engineer who had advised the adoption of the Avon scheme, intimated that it could be carried out for £850,000 if it were restricted to 10 million gallons.

PUNISHMENTS.

The burgh charter of Aberdeen not being now extant—if ever it was put on a sheep's skin—we cannot tell what powers of government were committed to the Town Council, but it may be assumed that they were the same as those in other burgh charters. These usually enumerate a long string of crimes and offences within the jurisdiction of the burgh magistrates, some of which are never heard of nowadays. Some of the terms, as sak, sok, thol, them, infang thief, outfang thief, and bludwits, are hardly intelligible to moderns. This shows that burghal institutions must be very old, pointing back to a time when the Sovereign was very willing to give self-government to communities, to relieve himself or his justiciar of as much as possible of his duty, and to allow of swift execution of justice.

Among the punishments which charters give burghs and barons power to inflict is that of death, which was freely executed for theft. Two modes are named, drowning and hanging, the former usually adopted for women and youths, and the latter for men, though they also were sometimes drowned. For drowning recourse was had to a river at a deep place called the thief's pot. Sometimes a hole like a grave was dug and filled with water, in which the criminal was drowned and covered up. Hanging was carried out on a knoll near the place where the sentence was pronounced, but, after the appointment of sheriffs, the sentence could not be carried out without allowing time for an appeal to the sheriff of the county.

There is mention of a sheriff in Aberdeen in the reign of William the Lion (1165-1214), and though the burgh magistrates could have delivered over to him persons accused of crimes they still continued to execute the powers entrusted to them by the Crown.

PLACES OF EXECUTION.

The first place of execution in Aberdeen was the north end of the high ridge of ground between West North Street and the Gallowgate. It is plainly shown in Gordon's Map of 1661, titled "Gallowgait or Hill." As the

termination of a name, gate has two meanings. In English towns it usually means an entrance, but it may be legitimately applied to a street leading to or from a gate. In Scotland though it may have this meaning it usually means a way or road. The fore part of the name tells the nature of the way, as in Broadgate, Longate, Hardgate, or the special purpose which it served, as in Cowgate, and Bowlgate—two names having exactly the same meaning—or the place to which it led, as in the Aberdeen Nether- and Upper- kirkgates, Castlegate, and Gallowgate. It is likely that this last name originated long before the town extended quite to the Gallow Hill, and that it means the road leading to the knoll where the burgh courts were held in the open air, and where a permanent gallows stood as a warning to evil doers, or where there was a stone with a hole in it to receive the lower end of the “gallowstree.” The stone on the summit of the hill beside the battlefield of Bannockburn has a round hole in it, not made for a flagstaff on the day of battle but as a base for a gallows.

The Gallow Hill is shown as being to the north side of the line of Spring Garden, with the Gallowgate Port in the south-west corner of the area. It extended 120 yards in length, as far as to the present point of the ridge between the Gallowgate and West North Street; but a considerable slice was cut off this point in forming West North Street.

Criminals were usually allowed to remain hanging on the gallows some time even for common theft, and for long periods for heinous crimes. This must have been an offensive, gruesome sight, and when houses had extended northward the gallows had been shifted to another place, farther from the inhabited part of the town.

THE SECOND GALLOW HILL.

The first place actually mentioned as the scene of executions was the knoll which afterwards became the site of the Powder Magazine of the town. About the middle of last century the Powder Magazine required to be enlarged, which led to excavations for a foundation. Remains of skeletons were found, and this showed that criminals had been buried, as was usually said, “at the foot of the gallows tree.”

The Powder Magazine was intended to be protected from lightning by a metal rod projecting above it and

terminating in two thick chains extending under the surface of the ground for some distance in opposite directions. The gallows knoll was sandy and dry, and after some time it was discovered that some damage had been done to the building by lightning. As a further protection two other chains were connected with the conductor. The Magazine was thought to be too near the town when houses were built beyond the railway, so it was removed. The site of the Magazine and its predecessor the gallows is now occupied by a building called The Shelter, at the corner of Trinity Cemetery; but the north side of the Gallowhill became a sand quarry, and has been taken away. In excavating the sand near the Shelter the chains were found, and though bits were removed the ends of some of the chains may still be seen on the west side of the Shelter. When first found it was supposed that they had been used to attach the bodies of criminals to the gallows in such a way as to prevent their friends from removing them, as was sometimes done; but they were too heavy to have been used for that purpose.

“One of the last persons who suffered here was a sailor who was hung in chains in 1752; many years afterwards his wasted skeleton was taken down by some irreverend men, who placed it by the door of the Methodist Meeting-house and affixed to it this sorry couplet—

I, William Wast, at the point of damnation,
Request the prayers of this congregation.”

(“Book of Bon-Accord,” p. 337.)

The last person who suffered on the Gallow Hill was Alexander Morrison, who was hanged on November 6, 1776.

The Gallow Hill road branched off from the public road to the Brig of Balgownie by Justice Port and the Links. The south end of the road to the Gallows may still be seen turning off to the left after crossing the railway. It joins on to Urquhart Street, but the north end is now built over. It was about the line of Urquhart Lane. The Gallows is shown in Gordon’s chart of the City, 1661.

THE MAIDEN—STRANGLING AND BURNING.

In Pitcairn’s Records of Criminals Trials in the reigns of Mary and James VI. there is frequent mention of other modes of capital punishment—beheading with the machine

called the Maiden, and strangling at a stake followed by burning of the body. The Maiden is first mentioned in Edinburgh records in 1566. It probably came into use in Aberdeen soon after. In Edinburgh it stood at the Cross; in Aberdeen it had stood on the Heiding Hill east of the Castle Hill, its name meaning beheading. It was not in use at the execution of Sir John Gordon in 1642, who was cruelly mangled by an unskilful executioner, probably using a sword.

A common sentence found in Pitcairn is:—"To be wirriet at the stake and brunt to asses." This was the doom on the hangman of Edinburgh for "lese majeste" to James VI. He was selling the effects of some person at the Cross and hung the King's portrait on a nail driven into the Maiden, for which he suffered death. This mode of execution was carried out by tying the criminal to a post fixed in the ground and strangling him with a rope twisted round his neck and the post, behind his back. Then fuel was placed round the stake, and the body and was all burned to ashes. Witchcraft and heinous crimes against decency were punished in Aberdeen in this way at the back of the Castlehill, in the hollow between it and the Heiding Hill.

THE CASTLEGATE.

Another place of execution was the Castlegate. "The precise spot," says "The Book of Bon-Accord," "where the gallows was planted is now (1839) marked by a millstone inserted in the causeway, opposite to King Street. Delinquents were here put to death in the following manner:—For a long period there existed in the burgh a fraternity of watermen, or individuals who drew butts of water through the streets on sledges; and it was the duty of the youngest member of this society to convey the criminal to the gallows. The rope being adjusted the carriage was driven off, and the victim was left suspended by the neck, with his feet within a yard of the ground. 'You couldna,' said a venerable octogenarian, in describing the scene, 'get a richt sicht o' him unless you was close in by.' In the excavation for the lavatory in Castle Street the place where the pole had been was found in the north-west corner. The waterman's part had afterwards to be taken by the hangman himself. In a description of a street fight in the town it is said that the hangman

kept a cart, which was taken possession of by one of the contending parties. In Dickie's "Botanist's Guide," The Hangman's Brae is named as a habitat for mignonette. Its older name was Futtie Wynd, which issued from the south-east corner of Castle Street, and, crossing the site of the Sick Children's Hospital, ended at the head of James Street.

About 1790 the gallows was removed to the door of the Tollbooth, where the notorious Malcolm Gillespie, Exciseman at Skene, was hanged in 1827 for forgery. Very little sympathy was felt for him, though the sentence would now be considered severe for the offence. It was generally believed that he delighted in provoking sanguinary encounters with "the up-throw lads" on their way from Highland glens to Aberdeen with home-made whisky. The last execution in Aberdeen was conducted on a platform gained from one of the windows of the first floor of the Town-house in 1857.

In Aberdeen the sentence of death by drowning was carried out in the harbour in a deep pool opposite the Shore Brae, known as The Pottie. Between the years 1584 and 1587 six criminals suffered death at this place; of whom two were men convicted of murder, and four were women guilty of child murder. The term given in old times to the legal execution of a capital sentence in any mode was *Justification*.

BANISHMENT.

In 1766 a woman was found guilty of killing her infant twins at their birth. She would have been hanged but her petition to be banished to "The Plantations" in Virginia was granted and her life was spared. In the same year a man convicted of stealing a horse was twice whipped through the town—probably at the ports—and committed to prison to be sent to The Plantations for life.

MINOR PUNISHMENTS.

Anciently imprisonment was far less in use as a punishment than it is now. For political offences men were sometimes kept in close confinement. Edward I. of England ordered the Countess of Buchan to be kept in a part of a room enclosed by bars and rails and hence

called a cage, and the sentence on the young Earl of Mar that he was to be imprisoned, but not secured with a chain on account of his youth, shows that grown men were so treated; but very often political offenders were ordered to "ward" themselves in Edinburgh or in a castle, and were "kept within bounds" under surveillance, but not much restricted in their personal liberty. Rutherford, minister of Anworth, was sentenced in 1639 to reside in Aberdeen during the king's pleasure. The lord of a barony required to have in his castle or mansion a place—usually in the lowest part, and hence called "the pit"—where an accused person could be kept a few days till he was tried. After trial he was set free or executed in a few days.

THE CUCKSTOOL.

The punishment called the Cock or Cuckstool had been early in use in Aberdeen, for the place where it had formerly stood is mentioned in 1320. It was in the south-west of Castle Street. The instrument consisted of a long beam with a slit in the middle by which it could be turned round in any direction and moved up and down as in the child's play called "Coup the Ladle." The beam was placed on a pin in the top of a post near a pool or the edge of a river. A small chair with arms was fixed to one end, and the convict was tied securely into the chair. The man in charge held a rope attached to the other end and let the chair and the occupant plump into the water, and then he pulled down his end and raised the other. Sometimes several dips were administered before the vengeance of the law was satisfied. There is a sketch of the instrument in the first edition of "Chambers's Encyclopædia." Scolding women, brewsters of bad ale, and profane swearers were dipped at the Cuckstool. Cock in names is a corruption of the Gaelic word "cnoc," a hill. This indicates that the middle of the beam had rested on a hillock.

There was in old times an instrument at James Street for loading and unloading ships with heavy goods. It could be swung round and loads could be lifted or let down as was required. This was called the Cran, and in the century 1600-1700 "ducking at the cran" was prescribed for the immoral females of the town.

THE JOUGS.

A punishment said to have had a deterrent effect upon ladies with loose, ill-hung tongues was standing an hour or two in the branks or jugs, an iron collar which encircled the neck at the end of a short chain attached to a post at the Cross. In 1588 two persons, after being bound at the Cross three hours, were burnt on the cheeks with a hot iron and banished for ever from the burgh.

SCOURGING.

At an ancient court held at Aberdeen three men found guilty of riotously taking meal out of a ship at Banff in 1766 were sentenced to be whipped through the town of Aberdeen by the hangman. Soldiers attended to see the sentence carried out, but their friends attacked the military with stones and clubs and rescued the prisoners.

Scourging at the Cross was sometimes ordained for delinquents. The instrument of correction is not mentioned; but the Town Records of Edinburgh show payments for "tows and besoms" for scourging, and the same articles were probably in use in Aberdeen. The besom had been the bundle of birch twigs so familiar to youngsters of both sexes and of all ranks in England.

A few years ago, and most likely at the present day, in any English town "Mater-familias" could buy for a penny a nice little specimen of the birch for nursery use. It was shown in "Notes and Queries" that within the reign of Queen Victoria the birch was in use in ladies' boarding schools in England and in the public schools.

THE REGALITY OF ABERDON.

The Bishops of Aberdon held all their lands around the Cathedral as a barony of regality, which gave them all the power over their lands and their inhabitants which the Crown itself possessed, with certain reservations. They could put thieves and others to death; but their power was restricted to those who lived on the church lands. They, like other barons, delegated their judicial authority to a baillie. In 1536 "William Lyoun, bailye to My Lord of Aberdene, askit lycens at William Rolland, balye

of this burgh, to hang ane thief convickeit in my Lord's court ; quhilk the said William grantit, protestand it suld not hurt the townis privilege in nae sort." (Town Council Register). Tillydron was the hanging place in the regality.

The Bishop's lands were put in the charge of an officer called the Deray, who resided upon them. Charters often mention a road separating ecclesiastical property from other lands. What is called the Deer Road in Woodside seems to have been originally the Deray's Road, and the Deer Dyke of charters had been the Deray's Dyke bounding the Cathedral lands.

THE DISPOSAL OF SEWAGE.

In ancient Aberdeen the supply of water was very small. In one way this was an advantage, for there were no sewers to carry away dirty water. Rain water ran off by gutters at the sides of the streets to the nearest burn. When there was a large quantity of dirty water to get rid of, as on a washing day, it was poured out into the street gutter. Most of the houses had deep ash-pits into which were thrown ashes from fires and all sorts of household refuse. Upon these was cast also the dirty house-water. Before the introduction of water from the Bridge of Dee the same water that served to wash the face had often to wash also the floor. Most houses had also cesspools. Sometimes in places closely built upon these were under the pavement of lanes and closes, with a foot or two of earth above the flags or slabs with which they were covered. In sparsely-peopled places the cesspools were in gardens, and usually they were under the bleaching green. The ash-pits and cesspools seldom gave any trouble. The whole area upon which Aberdeen is built was long under the sea, and beds of sand are found almost everywhere when excavations are made for the foundations of houses.

In the Gallowgate, which before 1800, was the chief street of ancient Aberdeen, it would have been easy to get quit of the house sewage by letting it run down the edges of the narrow lanes on the west side of the street to the mill-dam in Loch Street; but this was not allowed because the Loeh was the chief supply of water for the town. From the houses on both sides of the street and from the long lanes and closes on the east side the dirty water ran down the gutters on both sides till it reached Broad Street. There the ground begins to rise towards the south, and the water could go no further in that direction.

THE BRAID GUTTER.

Where the Gallowgate merges into Broad Street seems the proper place to locate what is termed in the old records of the town the Braid Gutter. This name occurs frequently, because it was a landmark or boundary line on crossing which bearers of burdens from ships discharging

cargo at the quay were entitled to an addition to their hire. In 1490 the Town Council enacted that for carrying a barrel from the quay at Shore Brae to the Braid Gutter pynours and carters should get one penny Scots, and two pennies if they carried it beyond the Braid Gutter. Half these sums was allowed for back burdens. In subsequent centuries, however, larger sums, 4d and 6d, were allowed. In 1749 we find mention of "the Gallowgate gutter or head of Broad Street," which seems to settle that the Braid Gutter was a broad channel crossing the south end of the Gallowgate to allow the sewage and rain water from the west side of the street to cross it and run down the narrow lane between Littlejohn Street and Marischal College to the pools on the east side of West North Street. The low area there was drained by the Powcreek Burn. In recent excavations on the east side of the Gallowgate it was seen that there had been a deep hollow where it joined on to Broad Street, which had afterwards been filled up to the present level.

THE FOUL GUTTER.

In 1546 we find the distance between the quay and the Braid Gutter divided into two by another landmark called the Foul Gutter. For carrying a tun of wine from the Shore to a place above the Foul Gutter the pynours were allowed to charge two shillings, and to any place beyond the Braid Gutter thirty-two pence. From the "Chartulary of St Nicholas" we see that the Foul Gutter was in the Castlegate, and it must have been between the head of the Shiprow and the end of Broad Street. Perhaps it was in the line of Union Lane so as to take in the sewage of the Guestrow along with that of Broad Street, which might have gone down the top of the Netherkirkgate. Opposite the head of the Netherkirkgate there was on the east side of Broad Street one of the first street wells, which gave the name Well Court to the close behind it; and any water spilt at the well would have gone to the Foul Gutter.

In making Union Street in the beginning of last century, when the buildings blocking the entrance to the Castlegate were removed a square wooden tube was found below the surface of the ground. This seems to have taken the place of the Foul Gutter, and it had probably been put down before there were houses at the west-end

of the Castlegate. When a sewer was made in Exchequer Row the channel of the Foul Gutter was met with at ten feet below the present level of the street. It passed down Exchequer Court and descended the steep brae facing the harbour. At the bottom of it ran the Denburn, or Trinity Burn as it was called after passing the end of Market Street, where the Trinitarian Monastery was situated.

The sewage from Queen Street, West North Street, and the area east of King Street found its way to the Powcreek Burn, which joined the Denburn where the Great North of Scotland Goods Station is now. The sewage from George Street, St Nicholas Street, and the Green entered the mill-burn after it drove the Flour Mill, and it entered the Denburn near where the Guild Street Theatre is now. When the city extended westward the Denburn became the receptacle of the sewage of a very large area. Crown Street, Dee Street, Bon-Accord Street, Bon-Accord Terrace, Holburn, Albyn Place, and Ferryhill Place all drained to the Holburn, called in the lower part of its course Ferryhill Burn and sometimes the Coffee Burn because it drove a coffee mill. The sewage from the houses north of Great Western Road and the middle section of Holburn Street and the Hardgate accumulated in stagnant ditches and marshes in Aiken's Moss, on the west side of Whinhill Road. This place is now drained to a sewer passing along Allenvale Cemetery and Duthie Park.

THE FIRST SEWERS.

The first sewers in Aberdeen seem to have been planned on the model of the great sewers which were provided for the ancient castles of the country. These again had been influenced by the sewers of ancient Rome, chief of which was the Cloaca Maxima, still in existence and serving as one of the sewers of Rome. At its mouth in the side of the Tiber it is 11 feet wide and 12 feet high, and it evidently had been intended to admit men with a horse and a cart when it needed cleaning out. Our old castles, such as Kildrummy, were at first like Roman camps, and intended to be occupied occasionally by a great body of men. The supply of water was scanty and a castle sewer was liable to become choked with solid refuse matters. It was therefore necessary to make it large enough to admit a man with a barrow to remove accumulations of sediment. These great sewers gave rise to the belief that old castles

had underground passages, some of them so high that men on horseback could ride through them. The first sewers in Aberdeen, though not of such gigantic dimensions as those of Rome, or even of Scotch castles, were large enough to admit a man in a crouching position to remove obstructions to the flow of sewage water.

Public sewers seem not to have been thought of in Aberdeen before the middle of the last century. West of the Denburn the opening of Union Bridge in 1805 was followed by the planning of new streets by wealthy corporations. In some cases sewers were constructed in these streets previous to the building of houses. Perhaps the first sewer had been that in Union Street, west of the Denburn. It did not cross the bridge, but descended the steep brae on the north side of it and entered the Denburn. It now passes under the burn, below Union Bridge, along the Green to Rennie's Wynd, and, joining the northern sewer at Shore Brae, discharges ultimately at Girdleness. Bon-Accord Terrace was provided with a sewer from the first, and from its open lower end a tiny flow trickled down the brae to Ferryhill Burn. There was also an early sewer in part of Crown Street, and one in Dee Street. All these and others were private sewers, made by corporations or by the joint efforts of the separate feuars along the streets. They were nearly all too near the surface of the ground to be taken over and paid for by the Police Commissioners when they set about seweraging the town. At the request of the feuars in a street the Town Council sometimes made a sewer and charged the cost to the owners of houses, in proportion to the length of the fronts of the houses.

THE POLICE ACT OF 1862.

In 1862 an Act of Parliament was passed for paving, cleansing, lighting, watching, draining, and improving the city of Aberdeen, and for supplying the inhabitants with water. Under this Act water was taken from the Dee at Cairnton, and the greatly increased supply made it imperatively necessary to provide for the disposal of the consequent increase of sewage water. In 1865 while the waterworks were in progress the Commissioners of Police obtained a report and plans on the sewerage of the town from Mr Robert Anderson, who had been engineering the waterworks. In the same year the Commissioners

requested Messrs Willet and Fulton to examine and report upon the outfalls proposed by Mr Anderson for the sewage and upon the construction of the sewers. These engineers approved generally of Mr Anderson's proposals, and recommended the construction of an intercepting sewer carried all round the city at an elevation sufficient to carry the main volume of the drainage of the town to the Aberdeen Links by gravitation. At this time it was believed that sewage might be used advantageously for irrigating land growing crops, and it was expected that a considerable revenue might be derived from having an irrigation farm between King Street and the Links. For the small area below the intercepting sewer they proposed that a sewer should be constructed along the river side, which should cut off the sewage entering the Upper Dock by the Denburn and join the Harbour Commissioners' sewer running along Regent Quay and Waterloo Quay and falling into the tidal harbour outside the entrance to the docks.

Ultimately a modification of this scheme was adopted. Further parliamentary powers were obtained, and the powers given to the Commissioners of Police in 1862 were transferred to the Town Council in 1871.

THE SEWERAGE SYSTEM.

Though the sewers in the older part of Aberdeen were constructed under the Police and Waterworks Act of 1862 the Commissioners could not undertake the sewage works till the completion of the Cairnton scheme in 1866. The sewer-making period extended from 1866 to 1870, during which many miles of sewers were formed at an average depth of 13 feet below the surface of the streets. The dominant idea of the sewage scheme was to carry as much water as possible to the Spital Irrigation Farm, lying on the east side of King Street, north of St Peter's Cemetery. In carrying out this idea the sound engineering principles of the shortest course and a good steady fall had to be sacrificed for profit from the rent for sewage water. Between the head of the sewer draining the south side of Queen's Road and the sharp angle where Woolmanhill meets Blackfriars Street there is a fall of 100 feet; but between the junction of these two streets and the outfall at the Irrigation Farm there was only 4 feet. The outfall was 40·5 feet above mean high water of stream tides.

The sewage from Seamount Place, or Porthill, flowed south to Littlejohn Street, where it could easily have been conveyed to the Powcreek Burn, whose course crossed Mealmarket Street; but for the sake of the Irrigation Farm the sewer held on south across the low area at Marischal College, across Longacre, Shoe Lane, Queen Street, and along Lodge Walk. Then it turned west along Union Street, taking in the sewage of Broad Street, and turning up St Katharine's Wynd; then it went along Netherkirkgate to Flourmill Lane, where it turned north, crossing Barnett's Close, Upperkirkgate, along Burn Court and Loch Street, where at St Andrew Street it entered the main sewer on its way to the Irrigation Farm. As might have been anticipated, the gradients along this devious, uneven course were not always good. In some places the bottom of the sewer had sufficient fall, in others none, and in Flourmill Lane the water had to run uphill.

SEWAGE AREAS.

There were three large sewage areas. The sewage of the higher parts of the town, called the irrigation area, was conveyed by a sewer running along Great Western Road, Holburn Street, Justice Mill Lane, crossing Bon-Accord Street, Dee Street, and running along Upper Crown Street, Diamond Street, Union Terrace, Schoolhill Viaduct, Blackfriars Street, St Andrew Street, Loch Street, Windy Wynd, across the point between the Gallowgate and West North Street in a tunnel, and thence in a north-easterly direction to the Irrigation Farm. This sewer begins with a diameter of two feet, which increases to four feet. The Irrigation Farm at first covered an area of 14 acres, which was afterwards increased to 47. The proprietor paid £250 a year for the use of the sewage, but he afterwards refused to give more than £100, and in 1899 the irrigation of land by the sewage was abandoned. In 1887 a sewer was constructed along the Links to Abercromby Jetty to carry off the surplus sewage not required for irrigation.

Another sewer belonging to the irrigation area came down Westburn Road, Rosemount Terrace, Skene Square, Gilcomston Steps, Woolmanhill, and joined the main sewer at the south end of Blackfriars Street. Though sewage was of some value as manure in 1865 when the irrigation scheme was first proposed, it is now so much

diluted that irrigation is only adopted as a means of getting quit of sewage, and irrigation farms, instead of being a source of revenue to cities, are conducted at great expense and loss. For inland villages sewage irrigation is more suitable and may be a source of profit.

Another sewerage area called the High Level area, though it was, on the whole, lower than the irrigation area, was drained by a sewer passing along Rosebank Terrace and the west side of the railway to Union Bridge, where, under the Bridge, it joined another sewer coming from Upper Denburn and places too low for the irrigation sewer. The two passed under the Denburn and the railway, under Union Bridge, eastward along the Green to Rennie's Wynd, along Guild Street, and joined the harbour sewer in Regent Quay and Waterloo Quay.

A small area near Victoria Dock is at too low a level to be drained by gravitation to the High Level sewer, and its sewage had to be raised by a pump at Clarence Street to the level of the main sewer.

The sewage from the district lying along the river side from the Bridge of Dee down to Victoria Bridge consisted mainly of water which had been used in manufacturing and industrial processes. It is discharged into the Dee below Victoria Bridge.

IMPROVEMENTS ON THE SYSTEM.

In 1899 the supply of sewage to the Spital Farm was withdrawn, and in 1871 the sewerage of the town was transferred to the Town Council, who are proprietors of many houses and feus throughout the town. The streets, sewers, and many properties being then under the management of the Town Council it became possible to effect several improvements on the sewage system without further Parliamentary powers.

The Seamount sewage does not now cross Littlejohn Street, but, descending it, returns along West North Street to King Street Place. It passes along it, and, crossing King Street, enters a main sewer in Jasmine Terrace, which has taken the place of the old Powcreek Burn. This sewer crosses the railway by an inverted siphon above Constitution Street, and striking south joins the Links sewer, whose outfall is at Abercromby Jetty. The sewage of Broad Street, Castle Street, King Street, Lodge Walk, Queen Street, and other places in this neighbourhood, all

of which formerly went to Loch Street, was conveyed to Jasmine Terrace, according to the natural slope of the ground.

Another great improvement has recently been effected on the course of the sewage from both sides of Westburn Road. Formerly it went along Rosemont Terrace, Skene Square, Gileomston Steps, and joined the main sewer at the point between Woolmanhill and Blackfriars Street. Now a continuation of the Westburn sewer holds straight on down Hutcheon Street. It crosses the railway at a great depth by an inverted siphon. Here a bed of old red sandstone was found, but the base was not reached. A large quantity of water flowed out of the strata, and had to be pumped out, and by its red colour it attracted attention as it flowed along the gutter of the street. At the lowest part of Hutcheon Street a deep bed of peat moss containing trunks of hazel trees was found. Old maps of the town show a marsh there, and before the Westburn was deflected to the east in order to furnish a supply of water to the town and to drive a mill at the upper end of Netherkirkgate the Loch must have extended across Hutcheon Street, along Fraser Road to Holland Street and the lower end of Millbank Lane.

At Fraser Road a sewer comes in bringing the sewage from Clifton Road, Great Northern Road, and Belmont Road. It passes down Berryden, and crosses the railway underneath. At George Street and Causewayend large quantities of sewage come in, some of it crossing the railway a little below the bridge between Elmbank Terrace and Canal Road. The main sewer turns down Causewayend, and passes east along Nelson Street. Before the railway is reached it is crossed, above, by the original main sewer on its way to the Irrigation Farm, which holds on its course as far as King's Crescent, and then turns east across a bed of moss eleven feet deep. It does not now cross King Street, but being deflected southward, it joins the new intercepting sewer from Hutcheon Street to King Street, at the end of Nelson Street. The united stream of sewage turns down Urquhart Road, and reaches the Links sewer, which conducts it to Abercromby Jetty. The Westburn, Hutcheon Street, Nelson Street, King Street, Urquhart Road sewer intercepts all sewage from the north of its line.

THE LOW LEVEL SEWER.

Besides the High Level area sewer, which passes under Union Bridge and along Rennie's Wynd, there is another sewer at a lower level extending along the north margin of the docks from Guild Street to the tidal harbour. To keep the sewage out of the tidal harbour a pumping station was established in the angle north of Clarence Street and west of Lime Street. Here the contents of the low level sewer were pumped up high enough to enter the High Level sewer, which conveyed the sewage to Abercromby Jetty. The outfall outside the Dock Gate was still retained in case of accidents to the pumping machinery or an extraordinary rainfall, but it is not in use now.

In 1891 it was thought desirable to save the expense of a pumping station in Clarence Street, and it was deemed practicable to effect this by forming a new sewer, beginning at the old near the Dock Gate, to pass along York Place, under the High Level sewer, across the Rope Walk, under the Links sewer, and terminate a few yards east of the outfall of the High Level sewer at Abercromby Jetty. The sewer was constructed, and it has to a considerable extent served the purpose intended; but, as the bottom of the sewer where it commences at the Dock Gate is two feet below mean sea level and more than a foot lower at the outfall, it only discharges water when the tide is low. This renders it necessary to maintain the pumping station at Clarence Street to relieve the low sewer when it becomes quite full. At high water of stream tide the flow of sewage is suspended along the whole Low Level sewer up to Market Street.

In constructing the new sewer some high ground was passed through, where the bottom is 31 feet below the surface of the ground. In 1647, when the plague raged in Aberdeen, many of those found to be infected were carried to the Links and lodged in huts. Two thousand persons died of the plague, and many bodies were interred in the sands, their graves being covered with turf to prevent the sand from blowing away. In making the sewer these graves were crossed to the east of the Rope Walk, and skulls were found in good preservation.

CORPORATION ACT OF 1899.

The cessation of the flow of sewage to the Irrigation Farm had enabled improvements to be made upon the sewerage of the north and east parts of the town ; but the growth of the town to the west was causing too much sewage to pass down Rennie's Wynd, and there were sometimes overflows there. In 1899 a new Act was obtained, the main object of which was to intercept the sewage of the west end of the town, and convey it to the sea at Girdleness without allowing it to enter the harbour or the navigation channel. It also picks up the sewage of the Torry district of the town. The Act also provides for a low level sewer along the north bank of the Dee, discharging 100 yards below Victoria Bridge into the Dee. This receives the sewage of an area of about 150 acres lying between the railway, Market Street, and the river. This area is too low to admit of its sewage being conveyed to Girdleness without being pumped up to enter the main sewer, and as it comes from a manufacturing and not a residential district the amount of water must be small, and not be seriously polluted.

STORM-WATER CULVERTS.

Several culverts for carrying off rain water and discharging it into the Dee were provided for. Where they crossed sewers provision was made for the overflow into the culverts when they had become two-thirds full. Chief of these is a storm-water culvert commencing at the junction of Fountainhall Road with King's Gate. It receives the storm overflow from the King's Gate and Beechgrove sewers, and conveys it down Fountainhall Road, St Swithin Street, Stanley Street, and the lane passing Union Grove Baptist Chapel. There the culvert enters the Holburn, which is now covered up all the way to its infall into the Dee, 360 yards below Wellington Bridge. These culverts are independent of the sewers, and in ordinary weather are quite dry, their chief object being to prevent flooding of the main sewers in thunderstorms.

In making the culvert in Fountainhall Road old red sandstone was unexpectedly met with. Though it was known to exist in the Denburn Valley and in Berryden, it had not before been met with so far west or at so high a

level. Numerous large blocks, rounded and waterworn, one of them half a ton in weight, found in the track of the sewer at Desswood Place, indicated that Fountainhall Road must be about the margin of the lake in which the strata had been laid down.

The Denburn is not mentioned in the Act of 1899, because the Corporation had already power to deal with it as far as was necessary for sewerage purposes. It is now entirely covered up from Jack's Brae downwards. At the south end of the Railway Station it turned due east and entered the south west corner of the Upper Dock. Now it goes southward along Market Street and discharges into the Dee below Victoria Bridge.

THE GIRDLENESSE OUTFALL SEWER.

This is the main scheme of the Corporation Act of 1899. There was already a sewer from near Rubislaw Quarry, along Queen's Road, Carden Place, Carden Terrace, and Skene Street. By the new Act a sewer commences at the junction of Summer Street with Skene Street and goes along the following route:—Skene Street, Rosemount Viaduct, Skene Terrace, North Silver Street, Golden Square, South Silver Street, Crown Street, Portland Street, under the railway and across Old Ford Road to the Esplanade, the river side to Point Law, under the Dee, round Torry Harbour, along St Fittick's Road, along the north side of Nigg Bay, and terminates in the sea a little to the north of Girdleness.

From Summer Street to Silver Street the track of the sewer was laid open. From Skene Terrace to Windmill Brae in Crown Street, the sewer was made in a tunnel passing under Golden Square at a depth of 30 feet. Here granite rock was encountered, and blasting was necessary. In Crown Street a great depth of fine stratified sand was found. Excavation was easy, but it was necessary to provide against caving in of the sides by driving planks deep into the sand on both sides. From Windmill Brae to Portland Street advantage was taken of the deep excavation to form above the sewer a subway for conveying electric cables from the Corporation electric works to the west end. In crossing Union Street there was found at a higher level than that of the sewer a large stone-built sewer, 5 feet 6 inches high, and 3 feet 6 inches wide, clean, and free of sediment. This was probably the first

made sewer in Aberdeen. As the solum of Union Street belonged to the town the sewer had been made by the Town Council. At Academy Street there was met with also the old intercepting sewer on its way from Great Western Road to the Irrigation Farm. It too was above the level of the new sewer. Both these were connected with the new sewer, and thus a great volume of sewage was diverted. At Portland Street a connection was made with the Holburn culvert, allowing an overflow in the event of the sewer becoming full in time of heavy rain. No difficulty was found in making the sewer along the river side. At Point Law the difficult task of crossing the Dee had to be faced. Care had also to be taken to place no obstacles in the way of carrying out a scheme projected by the Harbour Trustees.

DOCKS IN THE DEE.

From Sir Thomas Dick Lauder's account of the flood in the Dee in 1829, the whole estuary from Virginia Street to the South Esplanade must have been a continuous sheet of water at high tide on the day of the flood. Apparently never having heard of this the Harbour Trustees are in mind to construct quays and docks along the river from Point Law as far up as Victoria Bridge, and to deepen the bed of the river so that ships can go out and in at any state of the tide. With this in prospect the Harbour Trustees demanded that the upper surface of the tunnel to be made under the river for the sewage should be 38 feet below the surface of the river at mean high water. As the rise of the tide at Aberdeen is about 13 feet this makes the top of the tunnel 25 feet below the surface of the river at low water, and it is thought that 4 feet between the bottom of the river and the top of the tunnel would be sufficient to protect it from injury caused by anything resting on the bottom of the river. At present the top of the tunnel is 20 feet below the bed of the river. The navigation channel therefore might be excavated so as to have a depth of 34 feet at high water and 21 at low.

THE RIVER DEE TUNNEL.

The tunnel under the river Dee is 342 feet long and $8\frac{1}{2}$ feet in external diameter. It was driven from a vertical shaft on the Torry side, 13 feet in diameter, sunk to a

depth of 62 feet below high water mark. The shaft is lined with a cast-iron cylinder built up of flanged segments bolted together. The lower edge of the first ring of segments was sharp, so that the cylinder cut its way down as the inside material was excavated.

The bottom of the shaft was in glacial stony clay; above it was a layer of fine sand; above it 40 feet of grey laminated clay; and at the surface there was six feet of red laminated clay. When the glacial clay was reached water began to come in, apparently quite fresh. The quantity increased with the depth, and when the bottom was reached the shaft could not be dried though 60,000 gallons were pumped out per hour. By letting the water rise to the surface and come to rest divers were able to lay a plug of concrete, six feet thick, on the bottom. This effectually stopped the water from coming in.

The glacial clay had been the bottom moraine of a glacier descending the Dee valley, and probably it had extended far up the river, its base rising with the rise of the river bed. Hence, if the glacial clay were pierced to the bottom, water might rise in the bore and overflow at the top. Fresh water was found also in a coffer-dam made in the harbour when the new Regent Bridge was founded. The glacial clay had been formed under a glacier which melted as it entered the sea, and hundreds of tons of large rounded blocks brought down by the Dee glacier have been dredged from the navigation channel.

EXCAVATING THE TUNNEL.

It was thought necessary to use compressed air in making the tunnel to prevent water from oozing in. A lock was made in the Torry shaft by placing two floors across it with an interval of six feet between them.

The floors were made air-tight, and there was a door in the roof of the lock and another in the bottom. When a person entered the lock the doors were shut, and compressed air was let in till the air in the lock reached the same density as that in the tunnel; then the lower door was opened, and by descending a long ladder the tunnel was reached. It was lighted by electricity, and the air was kept fresh by a current of compressed air passing through a pipe terminating at the working end, and the discharge of the same quantity of tunnel air at the shaft.

The tunnel was pierced by means of a shield with

cutting knives in front. It was of the same diameter as the tunnel externally, and it was pushed forward by hydraulic rams giving a pressure of 100 tons. At the same time the silt in the bed of the river was excavated and removed at a door in the front of the shield, and passed up the lock to the outside. As the shield advanced a cast-iron lining was built up of flanged segments bolted together. A grouting of cement and sand was injected between the lining and the surrounding silt by means of an air compressor, so that the cast-iron casing of the tunnel is protected externally from the action of water. When everything was finished the tunnel received a lining of cement concrete internally to protect it and to facilitate the flow of the sewage.

The tunnel is divided longitudinally from end to end by a steel diaphragm bolted to flanges at the top and bottom, so that the sewage can be sent through both divisions simultaneously, or through either alternately when it is necessary to clean it out. At the bottom of the Torry shaft there is a pit to receive sludge, which can be pumped out when necessary. The vertical shaft is fitted internally with two cylinders connected with the two divisions in the tunnel. A similar shaft has been made at the Point Law end of the tunnel, only a sludge pit is not required at the north end.

The material excavated in making the tunnel was different from that found in sinking the vertical shaft on the Torry side. It was a homogeneous grey green silt, with occasional thin seams of sand. Old maps show that the site of the tunnel was in 1829 part of the channel of the Dee. It is probable that in the great flood in August of that year the bed of the river had been excavated to a great depth by the rush of water at the fall of the tide, and that the hole had been gradually filled up afterwards by fine silt. Among the material excavated from the tunnel there was a fragment of a china plate. This was sent to the British Museum with a request for a statement of the probable age of the fragment. The reply was that it had been made in the early part of last century, so that it might have found its way into a deep hole in the river soon after the flood.

From Victoria Bridge to Point Law, and from the Torry end of the tunnel to the north end of St Fittick's Road, the sewer is only about six feet in diameter internally, which is sufficient for the present population and a considerable prospective increase. If necessary these parts of

the sewer could be duplicated at little expense ; but the tunnels under the Dee and St Fittick's hill and some other parts have been made from the first sufficient for a population of 270,000, because the extra expense thus incurred was but trifling compared with what it would have been to double them afterwards.

ST FITTICK'S ROAD TUNNEL.

From the Torry end of the tunnel to St Fittick's Road the track of the sewer was an open cut ; but to pass under the hill a tunnel was made. Three shafts were sunk, one at each end about 32 feet deep, and one in the middle 90 feet deep. The tunnel was excavated in hard, stony, glacial clay, so compact and hard that it seemed as if the tunnel could have been made from end to end without timbering ; but to prevent accidents the roof was carefully supported till the sewer was formed. The internal diameter of the sewer is $7\frac{1}{2}$ feet, and it is formed of a tube of concrete, 15 inches thick, faced in the lower half with red brick.

In going down the brae between the summit of the hill and the level ground at the head of Nigg Bay solid rock with glacial clay above was encountered, and loose blocks of gneiss were met with, lying upon one another. They were scarcely rounded at all, and it seemed as if they had been originally diffused through the body of a glacier, and that they had been brought together by the melting of the ice in which they had been embedded. There were many large vacant spaces between the blocks, into which an arm could be thrust at full length. Upon the upper side of several of the blocks there was a black powder, which dissolved in hot hydrochloric acid and was probably oxide of manganese. It had been in the mass of the glacier, and had been left where it was found when the glacier melted away. Its origin must have been in rocks containing oxide of manganese, which had been abraded by ice charged with sand. Among the stones in the glacial clay were some pieces of serpentine, which probably came from the Coyles of Muick, near Ballater

THE BAY OF NIGG CUTTING.

On leaving the tunnel a raised sea beach was met with. Here, for the sake of saving a little expense, the sewer

was reduced to $5\frac{3}{4}$ feet of internal diameter; but on coming close to the Bay of Nigg the diameter was increased to $7\frac{1}{2}$ feet all the way to Girdleness Lighthouse. The track was blasted out of solid gneiss rock to a depth rising from 10 to 36 feet. About 40,000 tons of rock were removed. Some bands of igneous rock were crossed, one of which of a chocolate brown colour contained carbonate of lime and effervesced with hydrochloric acid. At the place where the sewer proper ends and the outfall begins, the gneiss could have passed for granite, and an old quarry filled up with rubbish had yielded the stones used in building the tower of the Lighthouse. In this quarry was formed a large chamber in which are placed apparatus for regulating the outflow of the sewage. At the end of the sewer there is a sliding door called a penstock, whose rise or fall confines the sewage if necessary to the sewer, or admits it into the chamber. At the lower side of the chamber another penstock keeps in the sewage and excludes the sea waves when it is raised, and lets out the sewage when it falls. In the middle of the chamber between the two penstocks there is an automatically working valve at the mean level of the sea, which closes when the level of the sea is higher than that of the water in the sewer, but opens when the tide falls. A substantial house has been built over the valve and penstock chamber to protect them from the sea in storms.

THE SEA OUTLET.

The outlet portion of the sewer extends 190 yards beyond the penstock house. It is constructed of 67 large pipes of cast-iron, averaging 7 tons in weight, bolted together by means of external flanges. The pipes are nine and six feet long, and seven feet in diameter. Being for the most part under water at high tide they are protected by a heavy mass of concrete at the sides and over the top. The mouth of the outlet is 21 feet below mean high water of ordinary stream tides. This excludes air from the pipes, which would be a source of danger if the open mouth of the outlet were struck by a heavy wave while the upper end was closed.

The total length of the Girdleness main sewer exceeds three miles. The construction of the sewer was let in two contracts, one for the section extending from Skene Street to Point Law, and another for the section from Point Law

to Girdleness—both sections being about the same length. The upper section was begun in 1900 and finished in 1902, no great difficulties being encountered in constructing it. The lower section was begun in 1902, and it was completed in 1907. It comprehended difficult works, and their construction showed great ingenuity and engineering skill in their design, and splendid workmanship in their execution.

THE NORTHERN DISTRICT AREA.

It was at one time intended to construct a sewer to intercept the sewage from Woodside which entered the river Don and to take in also the sewage of Old Aberdeen and convey the whole to the sea near the mouth of the Don. In many towns in England the sewers terminate at the edge of the sea without any contrivance for regulating their discharge, and at a short distance from their mouths little evidence of the sewage is seen. This may be owing to the fact that the sewage of a town usually enters the sea at many points in small streams and not in one of great volume. In Aberdeen it was thought that a more elaborate outfall would be necessary for the sewage of the northern district of the city, because it would be desirable to preserve the amenity of the bathing place at the Queen's Links. This led to a new plan by which the sewage of Woodside and Old Aberdeen is conveyed to the Links sewer near the site of the Irrigation Farm, and thence to the main sewer at Victoria Bridge.

THE NORTHERN SEWER.

The great northern sewer begins a short distance above Grandholm Bridge and keeps along the south side of the Don till Tillydrone hill is approached. It intercepts the sewage of Woodside and prevents it from entering the river. It passes in a tunnel below Tillydrone Road and the sand quarries at Kettle Hill and then enters on the bed of the Loch of Aberdeen, which was drained many years ago. In crossing the site of the loch an unexpected difficulty was encountered. It had been intended to make an open trench, construct the sewer in it, and cover it up; but on entering the bed of the old loch it was found to be composed of fine sand saturated with water. For three months an attempt was made to pump out the water in

the trench but it was quite unsuccessful, and it was impossible to obtain a firm foundation for the sewer. Then recourse was had to compressed air to keep out the water, and by this means a tunnel was made across the bed of the loch, in the same way as the tunnel under the Dee.

The sewer passes along Cluny Wynd, under the old town-house, along School Road, crosses King Street and holds on eastward. Turning southward it crosses the Powis Burn, passes along Ardarroch Road, turns down Pittodrie Street, and rounding the east end of Pittodrie Park it joins the Links Sewer near the Links Well. In this section beds of peat moss were found in what had been hollows excavated in the glacial epoch. In one five feet deep the trunk of an oak tree was found.

Before the construction of the great sewer beginning at Rubishaw Quarry, crossing Union Street between South Silver Street and Crown Street, and terminating at Girdleness, all the sewage of the higher part of Aberdeen passed along the sewer from the Links Well to the Abercromby Jetty. Now much of it is diverted down Crown Street, and by an extension of the northern sewer, at present in the process of construction all the sewage of Aberdeen will be diverted from Abercromby Jetty except what is collected by sewers on the north side of the docks and tidal harbour and in the hollow on both sides of the railway below Park Street.

EXTENSION OF THE NORTHERN SEWER.

From the Links well the northern sewer will soon be extended to Victoria Bridge where it enters the great western sewer on its way to Girdleness. It passes between Trinity Cemetery and The Broad Hill, along Park Road, Park Street, Justice Street, Castle Street, Shiprow, Shore Brae, Trinity Quay, and South Market Street. Large quantities of sewage will come in at Urquhart Road, Jasmine Terrace and the top of Shore Brae. From Shore Brae to Victoria Bridge the sewage is conveyed in three parallel iron pipes because the roof of an arched brick sewer would have been too near the surface of the Quay and Market Street. Already the south end of this section is in use. At Shore Brae it is receiving the sewage of Union Street between Crown Street and Union Bridge and from both sides of the Denburn and the area between Market Street and the railway.

COMPLETION OF THE SEWERAGE.

Before the end of 1911 the Sewerage System of Aberdeen will have been completed, though minor improvements will continue to be made for some years. The cost of the operations carried out under the Act of 1899 will amount to £200,000. When completed there will be four outlets for the sewage of the city:—two at Abercromby Jetty, one for the Low Level Sewer and another for the High Level; one below Victoria Bridge for the river side and the low area west of South Market Street; and the outfall at Girdleness for the great North-Western Sewer.

RAILWAYS.

THE BEGINNING OF RAILWAYS.

In 1814 Robert Stevenson designed a travelling road engine for hauling coal waggons on a tramway from Kittingworth Colliery to a port. It travelled at the rate of six miles an hour. In 1825 a locomotive was made for the Stockton and Darlington Railway—the first railway in England—which drew goods and passengers at the rate of fifteen miles an hour. The first railway in Scotland was the Monklands Railway, opened in 1826; and the first north of the Forth was the Dundee and Newtyle Railway, opened in 1831. It was $10\frac{1}{2}$ miles long, and rose to 224 feet above the sea. Most of it was level, but there were some steep inclines, where trains were pulled up and let down by stationary engines. These are now shunned, and the railway is worked solely by locomotives.

PROPOSED RAILWAYS TO ABERDEEN.

A railway from Aberdeen to Perth was surveyed in 1837. Owing to the state of the money market no attempt was made to get an Act for it at the time. On March 20, 1844, the "Aberdeen Journal" published the prospectus of the Aberdeen, Dundee, and Perth railway, which was to cross the Dee at Durris, cross the Grampians at the Slug, and pass Auchinblae and Laurencekirk. This drew out next week the prospectus of a railway which had been planned in 1837 to connect Aberdeen with the southern railways. Its route was by Stonehaven and Laurencekirk, and it was to terminate at Friockheim, on the Arbroath and Forfar Railway, made in 1835 to supply the manufactories of Forfar with coals and the raw material they used. As its route was nearer the coast than that of the railway announced the week before it was styled the Aberdeen and East Coast Railway.

On April 23 a third railway from Aberdeen to the south was announced, with the title of the Great North of Scotland Railway, which was to run from Aberdeen, through Strathmore, to Perth. This proposal emanated from Perth, and it had the effect of inducing the pro-

moters of the other two schemes to coalesce in favour of any scheme which might be recommended by Mr William Cubitt, a railway engineer of much experience. He recommended the adoption of the route proposed by the Aberdeen and East Coast Railway, with connections with the Arbroath and Forfar Railway at Friockheim for Dundee, and Guthrie for Forfar. This route was adopted, but some persons who wished to have a coast railway afterwards issued the prospectus of a company for forming a railway connecting Stonehaven, Montrose, and Arbroath, to be called the East Coast Junction Railway. The scheme met with little support and was soon abandoned.

THE ABERDEEN RAILWAY.

The Aberdeen Railway was the name adopted for the railway recommended by Mr Cubitt. There were to be branches to Montrose and Brechin, and the total length was to be 66 miles. The capital was to be £1,000,000. There were to be no tunnels, and no gradients steeper than 1 in 100. The Parliamentary plans showed that the railway was to end on the south side of Hadden Street, 80 feet west from Market Street. There might have been some intention of utilising the Market for station buildings, but the price spoken of by the Market Company, £50,000, was prohibitive. A large area between Market Street and Guild Street was purchased, including Trinity Church, which is still standing, though the congregation bought the theatre in Marischal Street for a new church.

The railway was designed to go in a straight line to Polmuir Road, crossing Trinity Quay, now included in Guild Street, by an arched bridge and going along a viaduct upon 171 arches of granite with 30 feet of span. The route led through the Inner Dock and along the margin of the Dee. The viaduct was to be level, and alongside of it there was to be another with a single line of rails, rising from the level of the harbour to Ferryhill.

The bill for the railway was opposed in Parliament, but it passed on July 31, 1845. The capital of the company was fixed at £830,000 and the following well-known Aberdeen worthies were named in the Act as members of the company:—Thomas Blaikie, William Adam, John Blaikie, Newell Burnett, Patrick Davidson, James Hadden, jr., Alexander Jopp, Clements Lumsden, Isaac Machray,

Alexander Pirie, jr., Henry Paterson, and George Thompson, jr.

The population of the city—which did not include Torry, Woodside, or Old Aberdeen—was 75,000. The city had then linen, cotton, woollen, and other manufactures, and considerable trade in stone, fish, cattle, and grain.

An agreement was made with the Arbroath and Forfar Railway by which it was leased at $5\frac{1}{4}$ per cent. per annum of its capital for five years and then merged in the Aberdeen Railway. This gave time to complete the Aberdeen Railway before the union, and it also gave it the means of carrying for itself the materials to be used in constructing it.

WORKS OF CONSTRUCTION.

The working plans were got ready, and the railway was contracted for within the estimates. There were many separate contracts. Messrs Leslie and Macdonald contracted for the first mile at £50,000, and they undertook also the bridge over the Dee.

The piers for the arches of the main line of the viaduct were built from Guild Street to Ferryhill, and arches were thrown over the south half, but none over the north half. After standing isolated several years the piers of the north half of the viaduct were taken down. No part of the north end of the small viaduct was ever formed, but the piers and arches of the south end were built. No operations of any sort were ever carried on north of Guild Street.

From Polmuir Road at Ferryhill to Greg Ness the track of the railway is a beautiful double curve on a gently-rising gradient. Both the curves have a radius of 2000 feet. In the first curve in approaching the river there are four arches of granite, 60 feet in span, and in crossing Riverside Road and the river there are seven arches of cast iron, each 60 feet in span, on granite piers. The contract was for arches of wood, but the contractors offered to make them with four ribs of iron for a very moderate addition to the contract price, and the offer was accepted.

It was a fortunate thing that the piers of the river arches were erected long before the arches were cast, for after a flood in the river it was found that some of them were undermined. They were taken down and rebuilt farther up the river, away from the deep pot above the

Craiglug Bridge. Better foundations were made for the piers, and they have never shown any sign of giving way.

In September, 1846, a serious accident happened to the viaduct near Devanha Brewery. At the south end several arches had been cast, and though the "centres" had been removed from three of them they stood apparently substantial and sound for ten days. Then they suddenly collapsed. Of eleven men who were at work upon them, seven were instantly killed, and the other four were severely injured.

PROGRESS OF THE WORK.

The work of construction was carried on vigorously, and at many points simultaneously; but rapid progress was impossible in the deep cuttings in the granite and gneiss rocks between Aberdeen and Cowie Church, where the soft, old red sandstone rocks begin.

The early locomotive engines used on railways weighed, with their tender, only 10 tons, consequently the railways had to be made straight and level. Where curves were unavoidable they had to be made with a long radius, and gradients rose not more than 6 feet per mile. Stationary engines were used where steep gradients were imperative.

By 1844, when the Aberdeen Railway was planned, heavy engines had been introduced; but in the prospectus of the railway it was stated that no curve would have a less radius than half a mile, and no gradient a greater rise than 1 in 100. Hence there were deep cuttings, spill-banks, high embankments, and long viaducts. Had the Aberdeen Railway not been made till 1854, when more powerful engines had come into use, such expensive works would have been avoided, and the railway would have been constructed at much less expense. But it has been for the advantage of the present generation that the Aberdeen Railway was constructed in the primitive style. It has effected a saving of coals on every journey that an engine makes; trains are run at a higher speed; and there is less tear and wear of the permanent way and the rolling stock.

UNION WITH THE GREAT NORTH OF SCOTLAND RAILWAY.

In 1846 the Great North of Scotland Railway Act was passed for making a railway from Aberdeen to Inverness.

The list of subscribers named in the Act is almost the same as in that of the Aberdeen Railway. Both railways were promoted by the same parties, and from the first a union between the two companies had been intended. In 1847 an Act was passed providing for their amalgamation, which was not to take effect till half of the share capital of each of the two companies had been called up and paid. The Great North of Scotland Railway Company could not dispose of half of its shares, and the amalgamating Act was repealed in 1850.

A RIVAL RAILWAY.

A straight line between Laurencekirk and Forfar passes through Brechin, but the Aberdeen Railway goes five miles off the straight line to approach Montrose. This induced the Scottish Midland Junction Company to try to get an Act for a direct line from Forfar to Laurencekirk. A bill for this railway passed through the House of Commons, but it was rejected by the Lords, who, though approving of the route, thought that the district could not support two competing railways.

OPENING OF THE RAILWAY.

In September, 1847, the railway had been made from Friockheim to Dubton, and branches to Brechin and Montrose had also been made. On October 19, trains began to run, drawn by an engine made in Aberdeen by Blaikie Brothers, which had been conveyed from Aberdeen to Dubton by road. On February 1, 1848, the Aberdeen Company got possession of the Arbroath and Forfar Railway, 15 miles long, valued at £211,848.

More money was required to complete the railway, and an Act was got authorising £276,666 to be raised by preference shares at 6 per cent., and a third more by mortgage, but the money could not be obtained, and the works had to be partially suspended. Then the Edinburgh and Northern Company—now incorporated with the North British—undertook to advance the money, and the offer was gladly accepted at first; but it was rejected when it was seen that the Edinburgh Company wanted to be registered as holding ordinary shares with a guaranteed

dividend of 6 per cent. After some delay the shareholders in London took up the preference shares, and work was resumed in April, 1849.

On November 1 the railway was opened for passengers to Limpet Mill, 3 miles from Stonehaven and 12 from Aberdeen. In December it was opened to Portlethen for goods, and in February, 1850, for passengers also. In April it was opened to Ferryhill, where a complete suite of station buildings was erected, and all thought of carrying the railway farther seemed to have been abandoned. On $7\frac{1}{4}$ miles—including the Arbroath and Forfar Railway—more than £1,500,000 had been spent, and nearly £200,000 more would have been required for rolling stock and a station in the city. It was seen that the original site was unsuitable, being too small, and 20 feet higher on the north side at Hadden Street than on the South at Guild Street. The site north of Guild Street had cost £40,000, and if abandoned it would not have sold for more than £20,000. The railway company wished to make the station in Guild Street on a site belonging to the Harbour Commissioners, who were willing to sell the ground, but they wanted to retain for themselves the best part adjoining South Market Street, and insisted on the railway company making a public road from Poynerhook to the south side of Provost Jamieson's Quay. They stipulated that the station should be on the south side of this road, though they agreed to allow workshops and other buildings to be erected between it and Guild Street. They also refused to let the railway obtain any part of the Inches. Finding themselves thus hampered the company became unwilling to do anything and preferred to remain at Ferryhill. However, they applied for an Act to enable them to abandon the Market Street site, and to give them power to make a station on the south side of Guild Street. The Market Company opposed, because they wanted a large sum for their building; and the Harbour Trust opposed, because they wanted to give very little ground and to get much money, but the Act passed. It did not contain any section requiring a money deposit. If a public body pass a resolution to execute a piece of work any person interested can compel them to carry it out. The railway company did not pass a resolution to make a new station, and as there was no penal section in the Act they were unassailable and did nothing. This freedom of action enabled them after a time to come to terms with the Harbour Trust. In 1853 they obtained

a new Act, and the station was made in Guild Street and opened in 1854.

In 1856 the Aberdeen Railway was amalgamated with the Scottish Midland under the name of the Scottish North-Eastern Railway. In 1866 this railway was acquired by the Caledonian Railway Company on a perpetual lease at 3 per cent., rising to 4 per cent. for the ordinary shares.

THE GREAT NORTH OF SCOTLAND RAILWAY.

In March, 1845, there was issued the prospectus of a great scheme for a railway from Aberdeen to Inverness to be called the Great North of Scotland Railway. It was to begin at the terminus of the Aberdeen Railway in Market Street, and leave Aberdeen by the Shiprow and Virginia Street; and after crossing the Canal it was to keep between it and the Don. There was to be a short branch from the main line to Banff and Portsoy, and short branches to Garmouth and Burghead. A later prospectus announced that the new company would buy up the Aberdeen Railway; but this part of the scheme was omitted from the bill brought into Parliament.

It was resolved to carry the railway by Inverurie, and it was announced in October that an arrangement had been made for the purchase of the Canal and that the railway would be made in its bed. The plans of the railway showed that it commenced at a junction with the Aberdeen Railway at the end of Marywell Street, and it crossed Union Street in a deep cutting at the west end of Union Bridge. It followed the west side of the Denburn, which it crossed at the end of Spa Street. To avoid interference with the Infirmary and Broadford Works it passed along the back of the houses on the west side of Spa Street, the west side of Farmer's Hall Lane, and the west end of Rosemount House, which had not many neighbours in 1845. It crossed Rosemount Terrace, and passed over the sites of Rosemount Church and the Co-operative Bakery in Berryden Road, and then it followed the den to Kittybrewster. There it entered upon the track of the canal which it followed to Inverurie. It thereafter held its way by Insch, Huntly, and Keith to Inverness. To this scheme there was afterwards added a branch from Inverurie to Banff, passing Fyvie, Towie, Hatton Castle, crossing Main Street in Turriff, passing King-Edward Church, and entering Maeduff from the east.

It then crossed the Deveron and at Banff Harbour joined the short branch to Banff from the main line.

Other railways promoted by the same company as feeders to its line were the Deeside Railway from Ferryhill to Aboyne, the Alford Valley Railway from Kintore to Alford, and the Great North of Scotland Eastern Extension Railway from Dyce to Peterhead.

OPPOSITION RAILWAYS.

The Great North of Scotland Railway had three rivals to contend with in Parliament before getting its Act. These were the Aberdeen, Banff, and Elgin Railway; the Inverness and Nairn Railway; and the Perth and Inverness Railway, which at Nairn sent off a branch to Elgin. The first of these was to begin at the Market Street terminus of the Aberdeen Railway. It was to pass through the east of the city by the Shiprow, Virginia Street, Hanover Street (where a branch was to go off to the harbour), and Albion Street. Crossing the Canal its route skirted the Links and crossed the Don below the New Bridge. It kept along the coast a few miles, and then turned north and followed the valley of the Ythan, passing Fyvie, Towie Castle, Hatton Castle, Turriff, and Dunlugas. It crossed the Deveron at Scatterty, and held to the west of Banff to keep clear of the grounds of Duff House. It skirted the many fishing villages on the coast of Banff, and ended at Elgin. This railway was highly thought of by many, and if it had been made there would have been fewer bits of railway in Aberdeen and Banff than there are now.

The Inverness and Nairn Railway would have been easily and cheaply made; but its bill did not pass, because it was not desirable to let separate companies pick and choose easy parts of a long main line, or to have short sections under separate management.

The Perth and Inverness Bill was rejected because the Committee of the House of Commons thought one railway between Inverness and the south was all that the traffic of the district could support; and the summit level of the Perth and Inverness Railway was 1450 feet above the sea, which the Committee feared would prove almost insurmountable. The contest then was between the two lines from Aberdeen; and the Aberdeen, Banff, and Elgin lost because it did not go to Inverness. The victory gained by the Great North of Scotland was dear bought. The

company had spent £80,000 in the contest, and there was nothing to show for it. There were 115 Scotch Railway Bills before Parliament in 1846, far more than there was money in Scotland to make. This caused distrust of railways as a safe and remunerative investment. Though the Act for the construction of the railway was passed on June 26, 1846, the first turf was not cut till November 25, 1852. The Acts for the subsidiary railways were all passed in July 1846, but they, too, had to lie dormant for a while.

Apparently with the view of reviving interest in their schemes, and getting the benefit of the Acts which had been obtained, the directors of the Great North of Scotland Railway brought into Parliament in 1847 a bill for consolidating the Aberdeen Railway with theirs, under the same name—The Great North of Scotland Railway. The bill passed on July 9; but the Act never came into operation, because the union was conditional on the share capital of both railways being called up to half its amount and expended on the railways, and it was found impossible to dispose of half of the shares of the northern company. In 1850 the Aberdeen Railway, wishing to be free from the incubus of an impecunious partner, obtained an Act of Parliament repealing the union.

RECONSTRUCTION OF THE COMPANY.

In 1851, when the company's time limit was drawing near, a new Act was obtained by which losses were written off, and only the cost of the survey and legitimate ordinary Parliamentary expenses were regarded as valid assets. It was resolved to make the railway to Keith, and to take a slightly lower route from Kittybrewster to the junction at Marywell Street.

To leave the Canal open as long as possible the work of constructing the railway was begun on the part between Inverurie and Huntly, in the end of 1851. The work went on briskly, and the contractor was ready to begin the lower section before the lawyers had completed the transference of the Canal from one company to another. Brooking no delay he ordered his navvies to cut the Canal bank at Dalweary, near Kintore, and let loose the water. This dried the whole section from Port-Elphinstone to Stoneywood, and to their amazement bargemen found their vessels aground for

want of water. This made the lawyers hurry up with their work; but before the barges could be got to their destinations the breach in the bank had to be mended and the Canal had to be filled with water.

The railway was opened from Huntly to Kittybrewster September 19, 1854. Money could not be had to carry it either to Keith or to the junction with the Aberdeen Railway.

SERIOUS ACCIDENT.

A few days after the opening of the railway a train with passengers was standing at Kittybrewster waiting the incoming of another train, as there was at first only a single line of rails. The engine of the moving train dashed into the first carriage of the standing train, and crushed it to bits. A woman sitting beside her husband fell through the floor, and was killed. Three persons were severely injured, and twenty were hurt. The accident cost the company £15,000, of which £2,151 was paid by the railway as compensation for injuries to passengers.

WATERLOO TERMINUS.

Being in possession of the Canal bed, the railway company got an Act of Parliament for making a branch along it to the Harbour, and a goods station at the Canal basin near Waterloo Quay. This branch was opened on September 25, 1855; and abandoning all thought of connecting the two railways by the Denburn Valley a passenger station was made at Waterloo, which was opened April 1, 1856. The railway was opened soon after to Keith, where it was met by another originating at Inverness. This brought a great increase of traffic, and in 1859 both Kittybrewster and Waterloo Stations were enlarged.

THE DEESIDE RAILWAY.

The powers of the Act obtained in 1846 expired after six years. In 1852 a new Act was obtained for a railway to Banchory, the part from Banchory to Aboyne being abandoned. The railway to Banchory was opened September 7, 1853. However, on June 30, 1862, an Act was got by which the Deeside Railway was extended to

Aboyne, and in 1865 another Act was obtained for extending the railway to Braemar. Queen Victoria did not favour this extension, and by purchasing land through which the railway was to pass she prevented it from being made. In 1866 the Deeside Railway was made over on a perpetual lease to the Great North of Scotland Railway Company.

BRANCHES OF THE GREAT NORTH OF SCOTLAND RAILWAY.

The Alford Valley Act of 1846 was never brought into operation. In 1855 it was proposed to revive the company, and this led to strenuous opposition from a party who wished to connect Alford with Aberdeen by a line passing through Cluny, Midmar, Echt, and Skene, and joining the Deeside Railway at Drum. After a keen contest in Parliament in 1856, the Kintore and Alford line was sanctioned, and the Great North of Scotland Railway was authorised to take shares in it to the value of £15,000. Parliament told the Deeside Company to finish their own line before interfering in the valley of the Don. The Alford Valley Railway is 16 miles long, and three years were allowed for making it. It was made and was worked as an independent Company for a while, but it was amalgamated with the main line on August 1, 1866.

An Act of Parliament for a Railway from Inverurie to Oldmeldrum was obtained in 1855, and the railway was opened in 1856. The Great North of Scotland held shares in it to the value of £2000, and in 1858 it took a perpetual lease of the railway for an annual rental of £650.

The Banff, Macduff, and Turriff branch of the main line was sanctioned along with it in 1846; but the power to make it was allowed to expire before anything was done. In 1855 a new Act was obtained, and the junction with the main line was transferred from Inverurie to Inveramsay. The Great North of Scotland Railway took £40,000 worth of shares, and money was raised sufficient to carry the railway to Turriff in 1857. In this year another Act was obtained for extending the railway to Macduff. The main line contributed £5000, and by a great effort it was extended to the neighbourhood of Macduff. In 1866 this and other branches were amalgamated with the main line, and by another Act passed in 1867 the railway was got to Macduff in 1871, with a station at Banff Bridge.

THE BUCHAN RAILWAYS.

Very many schemes had to be formed, and repeated surveys had to be made before Buchan was accommodated with railways. In 1845 the prospectus of the Aberdeen Banff and Elgin Railway described a branch from the main line passing through Ellon by Birness to Longside, with branches thence to Peterhead and Fraserburgh. The bill for the main line failed to pass, and neither it nor its branches were heard of again. In 1845, also, the Great North of Scotland Eastern Extension Railway was projected, and in 1846 an Act was obtained for making it. It was to leave the main line at Inverurie, and go by Oldmeldrum, Tarves, Ellon, Auchnagatt, Crichtie, to Old Deer, with branches thence to Fraserburgh and Peterhead. The impecuniosity of the chief company delayed the making of the main line for five years, and before anything could be done to the Eastern Extension the power to make it had lapsed.

In 1855-6 two railways to Buchan were proposed—the Formartine and Buchan Railway, promoted by the Great North of Scotland Company; and the Aberdeen, Peterhead, and Fraserburgh Railway, promoted by Mr John Duncan, advocate, Aberdeen. The Formartine and Buchan line was to leave the main line at Dyce and go on to Strichen, with the design of going to Fraserburgh at some future time. It crossed the Ythan at Douglashead, and held up the Valley of the Ebrie Burn towards Maud—not then begun to be built. Thereafter it followed the route on which the existing railway was afterwards made. From Old Maud it sent off a branch by Old Deer to Peterhead. This scheme was rejected by the House of Commons, because it did not provide for Ellon nor go to Fraserburgh.

The proposed Aberdeen, Peterhead, and Fraserburgh Railway began with a station at the east side of King Street, and crossed the Waterloo Railway above the Thieves' Brig. At the west side of the Broad Hill it sent off a branch to the harbour. It passed along the edge of the Links, and crossed the Don 230 feet below the New Bridge. It followed the coast to Newburgh, and then kept along the south side of the Ythan to Kinharrochrie, where it crossed the river. From the Ythan to Auchnagatt the routes of the two railways were the same. There they parted, the Aberdeen, Peterhead, and Fraserburgh

Railway following the road to Crichtie and Old Deer, whence it sent out branches to Peterhead and Fraserburgh. This scheme was also rejected, because signatures to large sums in the contract were not properly authenticated by witnesses.

In 1856-7 the same schemes were brought forward again, the Buchan and Formartine now proposing to go on to Fraserburgh by the west of Mormond. It failed to pass in the House of Commons owing to mistakes in the levels of the railway. The other railway failed because a statutory deposit of money was not made in time.

In 1857-8 the Formartine and Buchan Railway Company again brought forward their scheme, this time to go by the east of Mormond. The bill passed and money enough was raised to make the railway to Mintlaw, where a halt was made for a while. In 1863 the Peterhead branch was completed; but for want of local support the Fraserburgh branch had not been commenced. A new Act was obtained, and the route was changed. The railway leaves Maud as if it were to go by the west of Mormond, but at Brucklay it turns away to Strichen and curves round to Fraserburgh by the east side of Mormond. It was finished and opened April 22, 1865.

THE DENBURN VALLEY RAILWAY.

Both the Aberdeen Railway and the Great North of Scotland Railway Companies originally contemplated a junction between the two by a line in or near the Denburn Valley. There was at one time a stream of water in Berryden and by following it, the Spa Burn, and the Denburn a railway could easily have been made from Kittybrewster to Marywell Street. It would have been opposed by the proprietors of Broadford Works and the Royal Infirmary, and the Town Council would not have allowed it to pass under Union Bridge. This led to plans for carrying it on the west side of the line of the burns at such a level as that it would pass under all the streets in its course. In the plan of 1846 it ran along the west end of Rosemount House. Subsequently it was proposed to keep a little nearer the burns, but still crossing Union Street west of the bridge; and the feu on which the Palace Hotel stands was taken with the intention of making a station there.

After the opening of the Kittybrewster and Waterloo

Stations the Great North of Scotland Company gave up the intention of making a junction with the Aberdeen Railway by the way of the Denburn, and enlarged these stations.

THE LIMPET MILL SCHEME.

The difficulty in joining the two railways was not in the route but in the opposition to be expected from interested parties in Aberdeen, which would have to be bought off at a great cost. This led the Scottish North-Eastern Railway Company to bring out a plan for a junction without passing through Aberdeen. In 1862 they obtained an Act for making the Scottish Northern Junction Railway, from the north side of Limpet Mill Burn, three miles from Stonehaven Station, to a point a quarter of a mile from Kintore Station. After leaving the Aberdeen Railway it crossed the Aberdeen Road and struck north by the east side of the Cantlay Hills. It got into the course of the Muchalls Burn, and, passing through the Red Moss, it came to the Crynoch Burn, which led it to the Dee. It crossed the river at Culter, and coming to the Deeside Railway at Culter Viaduct it made two junctions with it, one to the north-east before crossing and one to the south-west after crossing. It followed the Culter and the Leuchar Burns for some distance, and then turned north by the east side of the Loch of Skene. After a course of 22 miles it joined the Great North of Scotland Railway 450 yards south of Kintore Station. The cost of the railway was estimated at £150,000.

It effected a saving of six miles on the distance between Stonehaven and Kintore *via* Aberdeen, and in general it was warmly welcomed in the country districts. In the city there was great indignation because Aberdeen was relegated to a siding instead of being on the main through line. The north railway company saw that they would lose twelve miles of their through traffic, while the south railway would gain eight or nine more than they had. They vehemently opposed the bill in its passage through Parliament, and offered to make next year a railway junction through Aberdeen, or in the vicinity of it. There was more in the last clause than was generally suspected, but the Great North of Scotland Railway Company best knew the difficulties in the way of the Denburn route. The Act was granted by Parliament; though its operation

was suspended till January 1, 1863, to give the north company an opportunity of bringing in a bill next year implementing their offer.

THE "CIRCUMBENDIBUS" RAILWAY.

Before 1862 was out the prospectus of the promised railway was issued. It was titled the Great North of Scotland Railway (Aberdeen Junction). When it was discovered that the junction railway was not to follow the Denburn Valley but to go round the town on the west, it was nicknamed the Circumbendibus Railway, and its official name was rarely mentioned. It was regarded as an evasion of the undertaking made to the Commons Committee, but when the terms of the promise were examined it was seen that this allegation could not justly be upheld against the railway. Anderson, the "Wizard of the North," was at the time exhibiting legerdemain tricks in Aberdeen, and to draw a large house he offered prizes for the best and the worst conundrums which Aberdeen could produce. The one which gained the prize for badness was:—"Why is a pig like a potato?" and the answer was:—"Because neither of them knows anything about the Circumbendibus." No doubt the same might be said now about half of the inhabitants of Aberdeen.

Its route began 100 yards north of Kittybrewster Station office, and followed the plan of 1846 for three quarters of a mile. It went along Berryden, crossing Berryden Road—near the south end, the east end of Westburn Road, Rosemount Terrace, and passing as before on the west of Rosemount House it left the 1846 route and crossed Rosemount Place at Mount Street. It crossed Short Loanings at right angles, the line of Esslemont Avenue—not then laid out, Leadside Road and the open mill-burn, Albert Street—north of the Denburn, and Carden Place, where there was to be a station. It then began to curve round in a semi-circle, and crossed Albyn Place at Nos 31 and 32—then building, Stanley Street, Claremont Street, Ashley Place—now part of Great Western Road, Holburn Street—west of Palmer's Brewery, Fonthill Road—east of Oldmachar Poorhouse, and crossing the Ferryhill Burn, Crown Street, and Portland Street it joined the South Railway in the line of Marywell Street as in the 1846 plan.

The railway was planned to cross the streets in its way

at a depth sufficient to keep it well out of sight and not to interfere with the level of the streets. The inhabitants of the west-end would be very glad now to have this railway passing through their midst so inoffensively and conveniently, but the opposition to it was so general and so keen that the Parliamentary agent sometimes threatened to withdraw the bill, and let the Limpet Mill Railway go on. In spite of all opposition the bill passed July 21, 1863.

NEW DENBURN VALLEY RAILWAY.

The Scottish North-Eastern Railway Company had opposed the bill, and they had asserted that for the cost of this railway a direct line could be made along the Denburn Valley. The House of Commons Committee took advantage of this statement and suspended the operation of the Act till 1st January next year, to give the Scottish North-Eastern Railway Company an opportunity of bringing in a bill for making a railway in the Denburn Valley and a joint station. If they failed to do this the Circumbendibus would go on. If their bill were objectionable and failed to pass they would have to pay £5000 to the other company for delaying needlessly the operation of their Act. If the Scottish North-Eastern Company got an Act and proceeded to make the railway they were to receive by instalments £125,000 from the other Company, otherwise the Limpet Mill Railway would go on. This arrangement put pressure also on the Town Council and the citizens whose ground might be needed for the railway. If they had demanded exorbitant prices then the Scottish North-Eastern Company would have said:—"We cannot make the railway, we will pay the £5000 and let the Circumbendibus go on."

A bill was timeously introduced into Parliament, and it passed June 23, 1864, with little opposition. The Town Council allowed the new railway to pass under Union Bridge, and were content to take £2500 for the ground taken from them. The proprietors of the Hadden Works in the Green were settled with amicably. The directors of the Royal Infirmary magnified their office and made unreasonable demands, which were not listened to in Parliament. The result of their pains and expense was that the Woolmanhill tunnel was pushed too far to the

east to admit of a convenient station being made at the mouth of the tunnel when Rosemount Viaduct was formed.

MR HASSARD.

To the shrewdness of an Irish M.P.—Mr Michael Dobbyn Hassard, Chairman of the House of Commons Committee which sat upon the bill—is due the credit of making the selfishness of railway companies and public bodies reluctantly co-operate to effect a direct railway junction in Aberdeen. He had been Chairman of the Committees which sat upon the Limpet Mill scheme in 1862, and the Circumbendibus in 1863, and he knew the troubles of the south railway with the Harbour Commissioners in getting a station in Guild Street in 1853, and the resistance of the Town Council to a railway skirting the Public Links in 1856. When all details had been adjusted he rubbed his hands on one another as if washing them clean and clear of Aberdeen railway matters, saying:—“Have we not done handsomely by the people of Aberdeen?” The Town Council sent him a letter acknowledging his services to the city.

CHIEF PROVISIONS OF THE ACT.

The first and most important was to make a railway beginning 440 yards from the south end of the Guild Street Passenger Station, and ending 110 yards north of the passenger shed at Kittybrewster Station. The second was to make a Joint Passenger Station according to a prescribed plan south of Guild Street. Before railway operations began at Guild Street, the street which now bears this name was in four parts. The part between Market Street and Stirling Street had the harbour on the south side and was called Trinity Quay. The second part, extending to Trinity Street, was called Guild Street in honour of Dr Guild, donor of the Trades Hospital. It dipped to the south at the west end. The third part was the end of Trinity Street, which then came down obliquely in the same line as its upper part does. The fourth part, Wapping, extended across the Denburn to College Street on the east of a street called Lower Denburn, not in existence now. From the present termination of Trinity Street a street extended south to the old

Inner Harbour, called Gas Street because the gasworks were on the west. Hadden's dyeworks were on the east side of it. From the meeting of Trinity Street and Wapping a street called Lower Dee Street extended southward in front of the Joint Station to the Denburn, which there curved eastward and entered the harbour. A bridge across the Denburn connected Lower Dee Street with Wellington Road, in which Marywell Street and Ayleck Street ended. Gas Lane extended east and west from Gas Street across Lower Dee Street and the Denburn to Lower Denburn.

OTHER PROVISIONS OF THE ACT.

Guild Street was to be extended west to College Street. There was to be an open space or access in front of the station extending from Guild Street to Gas Lane. There was to be an access to the station on the west side from College Street, and from Marywell Street to the east side by a footbridge across the railway. There was to be an access from Union Street to the station by a street (Bridge Street) nearly in a line with Union Terrace and joining on to Guild Street. There was to be a foot bridge over the Denburn to the Green in the line of the Windmill Brae. Bath Street was to be made to connect the Windmill Brae with Bridge Street. Rennie's Wynd and Trinity Street were to be carried down perpendicularly to Guild Street in the line of Gas Street. A bridge over the railway was to be provided in the line of Mutton Brae, joining it with the end of Skene Street. This was done, but on the formation of Rosemount Viaduct the bridge was removed and Mutton Brae was closed up. The site of it was between the churches and the Viaduct, and there was a wooden foot bridge across the Denburn at its lower end. In the Woolmanhill tunnel the rails were to be laid on longitudinal sleepers without iron chairs, unless some better way of preventing noise should be found, and trains were to enter without whistling. Three years were allowed for finishing the works, after which Waterloo Station and Guild Street Station were to cease to be used as passenger stations. The Joint Station was to be upheld by a committee at the expense of the two railways. All north of the Joint Station is the property of the northern railway, and all south of it belongs to the southern.

The Denburn Valley Railway was completed and opened in 1867.

CONSTRUCTION OF THE RAILWAY.

The Denburn Railway reduced the distance between the north and south lines 1 mile, 600 yards. There are two tunnels on the junction, the lower of which is 245 yards long, and the upper 270. Both were made by open cuttings which were afterwards covered up. The junction line crosses the Denburn three times, and it had to be covered up. Old red sandstone rock was found at the south end of the lower tunnel. A bank of blue clay was also found, which had been put down to dam up the outlet of the Loch of Aberdeen and to raise its waters to a higher level, perhaps with the view of sending water to the mill at the head of the Netherkirkgate. When it was cut through there was a great discharge of water from a bed of sand. Near the upper end of the lower tunnel a well 300 feet deep was found in the angle between Woolmanhill and John Street. This well was purchased by the proprietor of a neighbouring stone cutting yard, to get the use of the water in his works.

The well supplied water for a steam engine in a tape manufactory owned by Milne, Low, and Company, which was in Woolmanhill, between John Street and St Andrew Street. It also supplied water for baths provided by the Company for the workers. A woman, 84 years of age, who was a worker in the mill, remembers the digging of the well in the court of the factory. Her wages were at first 20d. per week, and they were raised to 24d. Work began at 6 A.M. and ended at 8 P.M. In busy times work began at 3 in the morning, yet she looks back upon the years she worked in the mill as a happy time. Before the formation of the Denburn Valley Railway the tape manufactory had been shifted to Rosemount. Granite rock was found in the cutting for the upper tunnel, but afterwards old red sandstone was found under the railway in Hutcheon Street when a sewer was passed under it. A spring of water was found in the granite, and it was conveyed in a pipe to Union Bridge, where it feeds a tank for supplying railway engines with water.

SUBSEQUENT WORKS.

A viaduct over the railway was constructed at Schoolhill in 1889, and a railway station was made on the north side of the viaduct.

For the convenience of passengers by suburban trains a station was made in Bridge Street, but the Great North of Scotland Railway is greatly in want of more space, both at the Joint Station and at Kittybrewster.

The Caledonian Railway is likewise hampered for want of room at the Joint Station. When it was opened November 4, 1867, it was pronounced to be the finest in the Kingdom, except in point of size. Now it is condemned as unsafe and inadequate; but ground for enlarging it or replacing it by a new station cannot be obtained. The Caledonian Railway Company has acquired and utilised the site of the old Clayhills Brickwork and removed many buildings at the end of Aikleek Street, but more ground is wanted and cannot be got.

Perhaps the best way to relieve the congestion at Aberdeen Station would be to construct the railway proposed in 1862 to be made from Kintore to Limpet Mill, which would save six miles on the journey from Aberdeenshire to the South.

THE HARBOUR.

The harbour of Aberdeen is the estuary of the river Dee, which had originally extended from Virginia Street on the north to Sinclair Road on the south, a width of fully 1000 yards. The mouth had been quite as wide, perhaps wider, though it is now restricted to 100 yards. We naturally wish to know how the area between the limits mentioned came to be so much filled up, not as it is now, but as it is seen by Gordon's chart to have been in 1661, before the citizens had done much to change its natural appearance.

It is clear that if the land were now to rise slowly out of the sea the river would tend to sweep away the matter accumulated in its estuary; and therefore we may infer that the filling up of the estuary had been caused by the sinking of the land into the sea, and that the matter which filled it up came down the river. Excavations made in the harbour to obtain a secure foundation for the piers of Regent Bridge showed that there is in the bed of the harbour at a considerable depth a bed of peat-moss. As moss is formed in marshy places on dry land there must have been a great depression of the north-east of Scotland and an invasion of the land by the sea since the formation of the estuary of the Dee. The shellfish called *Solen siliqua* thrives best in a sandy beach, alternately covered and bare at high and low tide, and it dies in deep water, either from want of suitable food and conditions or because the pressure of the water is too great. Shells of this kind have been dredged up from water 400 feet deep to the east of Aberdeenshire, which indicates a sinking of the land to that extent.

THE EROSION OF THE ESTUARY.

Another question connected with the harbour is:—What was the agency by which the wide estuary was formed? The answer is given by the grey stony clay found in the deep shaft sunk at the south end of the tunnel under the Dee. This had been formed by a glacier coming from Ben Macdhui, Cairntoul, and other lofty mountains round the sources of the Dee. Where the bed of a glacier is steep it

is rapidly eroded; where it is nearly level the detritus is laid down and the ice passes over it.

The evidence from what has been found in excavations in the harbour indicates that the erosion of the estuary of the Dee began when the land was several hundred feet farther out of the sea than it is now and the seashore was farther to the east; that it was caused by a large glacier descending the valley of the river and carrying the debris far out to sea; that after the valley was deeply eroded the land began to sink, which caused erosion to cease at Aberdeen and a bottom moraine to be formed; and that after a long period of extreme cold the glacial phenomena began to disappear and the terminus of the Dee glacier gradually retreated up the river valley and finally vanished—its last work being the formation of the pools of the Dee at the base of Ben Maedhui. So long as the glacier continued to be at work in the valley the river must have been heavily charged with gravel, sand, and clay, and by the deposition of these the estuary had been filled up, leaving only two channels, one occupied by the river and the other by the Denburn. Originally these two streams had coalesced at the head of the estuary; but in Gordon's Chart, where we first see them, the meeting-place is at Point Law.

THE CONTRACTION OF THE MOUTH OF THE ESTUARY.

The contraction of the mouth of the estuary had been effected by sand brought down by the river Dee from deposits of glacial clay through which it passed. They had been first carried out to sea, then cast on the beach by sea waves, and lastly blown inwards in east winds. No doubt, however, the sand on which Footdee is built came partly from the north, being carried southward in north-east storms, which raise the greatest commotion in the sea on the east coast.

Though there are along the coast great sandhills formed of sand blown in from the seashore the sea is constantly gaining on the land. This can be seen by the steep face presented by the sandhills to the sea. Originally it was a gentle slope, but the waves are undermining the hills and carrying the material farther and farther out. When it reaches deep water it settles and comes to rest permanently. There is sometimes a great accumulation of sand at the back of the North Pier after a north-east

gale, but farther north the sea is visibly wasting the land.

In the Bay of Nigg we can better estimate the erosive power of the sea than between Don and Dee. At the close of the glacial epoch the bay had been filled with a bed of clay containing many large rounded blocks of stone. The bed was the ground moraine of a branch of the Dee glacier which left the valley about the railway viaduct and held straight out to sea. The lowest part of the hollow between the river and the bay does not quite reach 50 feet above sea level, and the clay bed in the bay had not been so high. High water mark at the head of the bay is now 800 yards within a line joining Girdleness and Greg Ness, which marks the depth of the erosion of the coast. The clay has been washed away; but the stones it contained are now lying in the bottom of the bay, each where it fell out of the bed.

Some think that the river Dee had once run to the sea at the Bay of Nigg; but if it had once done so it would probably have kept to that course. The sea is gradually making its way inwards to the Dee, and if there is not rock to stop its progress a communication between the river and the sea might in the lapse of ages be effected. Others, with no responsibility upon them, say that by projecting piers or breakwaters from Girdleness and Greg Ness an excellent harbour could be obtained with a deep water entrance, well-sheltered from the north; but the extension of the North Pier has done much to improve the entrance to the present harbour, and the dream of a Bay of Nigg harbour is not likely to be realised.

THE HARBOUR IN EARLY TIMES.

At Aberdeen when we first learn anything about its harbour large ships could go no further into the estuary of the river than Torry. They lay in what is now Torry Harbour, on the south side of the Dee, out of the current and sheltered on the west from floating ice in winter. There was no building of any sort to lie at, and they took in and discharged their cargo by boats. Fishing boats were hauled up on the beach in a small bay on the north side where Pocra Jetty is now.

The land on the north side of the river ended in a point called the Sand Ness. On passing it the current of the river slackened its speed and deposited the sand and

gravel which it had been carrying in suspension or rolling on its bed. This produced all round the river mouth a bank of sand and gravel called the bar. All rivers entering a shallow part of the sea are liable to be obstructed by bars, and Aberdeen has not quite got rid of the one at the mouth of the Dee, though it is now shifted to the end of the North Pier. A great feature of the entrances to the Mississippi is the erections for narrowing the streams and making them scour out their channels. At the end of the Russian War an International Commission was appointed to attend to the mouth of the Danube and keep Russia out of mischief.

THE QUAY.

Small ships not drawing more than 12 feet ascended the Denburn as far as Shore Brae, formerly much wider than now. The quay extended from Market Street to James Street, being about 200 yards in length. There was a small creek going inward at the foot of Market Street where ships and boats lay.

Such were the beginnings of the harbour of Aberdeen. The only work of man among them was the quay at Shore Brae. Probably it had been erected at a very early point of time. The Shiprow, which runs along the head of Shore Brae, is mentioned in a charter of date 1281, but the quay must have been in existence from the time that Aberdeen became a trading port.

The use of coffer-dams, piles, and concrete in laying the foundations of erections in water had not been introduced when the quay was built, and its foundation, if it had one, had been laid in the muddy bottom of the Denburn. In 1453, £53 was spent upon the quay, and in 1484 it was in a tumbledown state. In 1512 the quay again required repairs, and in 1526 it was seen to be a hopeless task to build a substantial sea wall with the rounded ice-transported boulders found lying on the surface of the ground about Aberdeen. On this occasion, therefore, a new departure was made. The master of Shoreworks of the time was sent to Dundee "to buy famous stonis;" that is, large blocks of squared sandstone, probably from Kingoodie, from which stones were often brought to Aberdeen. These good stones most likely had been used in extending the quay wall and not in rebuilding the old part, for in 1549 repairs were again necessary.

The rise of the tide being about 12 feet on an average, and more at new and full moon, a stair was provided to facilitate embarking and disembarking, and the loading and unloading of ships. The size and depth of ships had been increasing, and in 1561 an ordinance was issued by the Town Council forbidding casting out ballast from ships within flood mark under a penalty of forty shillings. Money was constantly wanted for the quay, and part of the price obtained for the silver ornaments and vessels in use in St Nicholas Church before the Reformation was laid out upon it. Continued growth of trade necessitated machinery for lifting and swinging heavy goods, and a crane was set up at the quay-head in 1582.

THE BLOCKHOUSE AND THE BOOM.

It was thought necessary to protect the harbour from the entrance of pirates and national enemies, and a fort called the Blockhouse was erected near the Sand Ness in 1542. It is shown in Gordon's chart as a circular roofless building, but usually this sort of building was square, and covered above with trunks of trees to protect the guard in it from being shot by those whom they wished to keep out of the harbour. The site of the Blockhouse is shown by an inscription on a stone in the wall of a house in Poera Quay. At the same time a boom was made to cross the mouth of the river, such as we read of in the account of the siege of Loudonderry. The boom at Aberdeen consisted of an iron chain fastened at the ends to bars crossing the eyes of millstones sunk in the ground. To keep the chain at the surface of the water, and prevent ships and boats from passing over it, masts of ships were attached to the chain along its whole length. It may be in the recollection of some that in the Russian War the entrance to the harbour of Sebastopol was guarded by a chain, which was lowered to let ships pass over it. On the south side of the Dee a watch-tower was erected for a sentinel who should watch for the approach of ships and ring a bell to give notice to the inhabitants.

THE BULWARK.

The greatest evil the harbour was liable to was the closing of the mouth of the river by sand driven into it at high water in north-easterly gales. To help the river

to keep its mouth open a rampart of stones called the Bulwark was built, 1607-1610, at the mouth of the river on the south side. It served to keep the current off the shallow margin and force it into a place where it could excavate a deep passage. It was constructed of stones without cement and of large stakes of timber, and the work was mostly done by the inhabitants, inspired by the music of the bagpipes and the drum. There is still a bulwark at the place indicated, but it is probably not the original erection. It has now a small jetty at the west end for the purpose of keeping the current of the river well to the north. The navigation channel is now so deep that the bulwark seems as if it had been a useless piece of work, but it doubtless served the purpose intended when it was built.

CRAIG MAITLAND.

This was a great stone which lay in the navigation channel, that is the mouth of the Dee. It had fallen from a cliff near the source of the Dee upon the glacier filling the river valley and had been transported to the sea. The glacier had melted at the water edge and the boulder had been dropped in the mouth of the navigation channel. It was removed in 1610 by David Anderson under an agreement with the Town Council by which he undertook for 300 merks "to tak out of the watter" the big stone. The Council Register makes no mention of the means by which the stone was removed, or of the place to which it was taken. Anderson signed a receipt for 300 merks paid to him "after the compleiting and taking furthe of the staine."

Writing in 1685 Baillie Skene, in his "Succinct Survey of Aberdeen," says:—

As for the Accommodations and ornaments of our city, we have an indifferently good entrie to our harbour for ships, especially since that great stone called Craig Metellan was raised up out of the mouth of the Dee and transported out of the current thereof, so that now ships can incur no damage, which was done by the renowned art and industrie of that Ingenious and vertuous citizen David Anderson, as also by that considerable bulwark the magistrates of late years caused erect at the mouth of the south side of the river extending up the shoar such a great length so that very great ships may enter and be safely preserved when they are in without hazard.

Dr Joseph Robertson, in the "Book of Bon-Accord" (1839), says:—

Tradition relates that the device which David Anderson adopted was that of securing a number of empty casks to the block at low water; and when the flowing tide lifted the mass from its bed, he seated himself on one of the barrels, and, with colours flying, sailed up the harbour, amidst the acclamations of the delighted citizens.

(This is given as a quotation from the "Aberdeen Observer" on October 4th, 1833).

This method of floating submerged bodies is well known. By means of chains passed under the keel sunken ships have been raised and floated to the shore. The statement in the "Observer" may have been sent as a paragraph by Robertson himself, and though no doubt substantially correct it cannot be accepted as historically true. The ingenious and virtuous David seated astride on a hundred gallon wine pipe with a flag in his hand must be an embellishment of the narrative. As to the direction in which the novel craft and its commander went there is no evidence; but it must have been inward not outward. The barrels had been attached to the stone at low water, and as the water began to rise there had been a current inward. If the experiment was to be successful the stone must have been off the bottom long before high water, and men in a boat could easily have taken it in, but not out. If it be asked:—"Where is it now?" it may be answered that though dredging in the navigation channel as far out as the pierhead has brought up many large stones, none of them could be identified with Craig Maitland. Baillie Skene's spelling of the last part of the name with the "i" doubled suggests that the stone may not have got its name from a man named Maitland, but that it may originally have been called in Gaelic "Meadhon ailean," middle island. We see the old way of pronouncing "Meadhon" in the last part of Pitmedden and Auchmedden; and the name Ellon represents the Gaelic "ailean." "Craig" means any kind of rock.

THE NAVIGATION OF JAMES V.

There is a brief notice of Aberdeen Harbour in a small book, titled "The Navigation of James V." In 1540 this king made an expedition with five ships to the Orkneys and Western Isles to receive homage and submission from

the chief men, and to secure payment in future of the crown revenues payable by the land-holders. His little fleet was under the care of Alexander Lindsay as pilot; and Lindsay seems before setting out to have collected all the information then known regarding the ports, capes, rivers, tides, currents, rocks, and shoals on the coast. This booklet is usually supposed to be an account of what was seen on the voyage, and it is sometimes said that King James visited all the places mentioned; but it bears internal evidence that it was prepared before setting out and not after return. Aberdeen is said in the Navigation to be 33 miles from the Red Head, 11 from Ythan mouth, where there was a harbour, and 40 from Buchanness (then at Peterhead). We are told that it is high water when the moon is south by west. The Girdle Rock is mentioned as a danger to be avoided. It is safe to say that it was not seen by James's company, for many visits to Girdleness at the most likely times have not given a sight of it, but its position is well known to the fishermen of the town. The following directions for entering the harbour are given:—"If you would enter the harbour, take three-quarters of the tide with you, because there is a dangerous bank of sand in the mouth of the river."

SPALDING'S NOTICES OF THE HARBOUR.

Ships of great draught of water could not go up to the quay, and had to lie at anchor in the bight on the south side, now Torry Harbour; but from what Spalding relates we see that they were exposed to great danger when the river was in flood. He gives the following graphic account of a catastrophe which befell some transport ships lying in the river in 1637:—

“Thair wes four schippes lying at anchor within the harberie of Abirdein in one of which Maior Ker had a number of soldiouris, bot throw ane great speat of the water of Die, occasioned be extraordinar rayne, thir haill four schippes brak louss, for nather tow nor anker culd hald them, and wes drivin out at the water mouth vpone the night throw the violens and speat of the water, and by ane south-est wynd wes driven to the north schoir, quhair thir schippes wes miserably bladit with lekis by striking on the Sandis. The soldiouris sleiping cairleslie in the bottom of the schip vpone hether wes all in swoum throw

the water that cam in at the hollis and lekis of the schip to their gryte amasement, feir, and dreddour. Alwaist thay gat up ilk man with horrible crying and schouting; sum escaipit, other sum pitifullie perishit and drount."

In the morning it was found that 92 had been drowned or had taken the opportunity to desert.

In the end of the same year, says Spalding:—

"Throw gryte innundations, ane bar or grite bed of sand was wrocht wp and cassin athwart the water mouth of Die, mixt with marble (marl), clay, and stanes. This feirfull bar so maid wp and mixt wes cassin and ran fra the north schoir to the south schoir, and stoppit the inouth of the harberies, that no schip would go out or cum in thairat; and at a low water ane man nicht have past vpon this sandy bed, from the north schoir to the bulvark dry foot. It ainasit, effrayit, and feired the haill people of Abirdene, brughe and land. Thay fell too with fasting, praying, preiching, mvrning and weiping, day and nicht. Then thay went out with spaidis, schoollis, mattocks, mellis, in gryte numberis, man and woman, young and old, at ane low water to cast doun this dreidfull bar, bot all for nocht, for alss fast as thay cast doun at ane low water, it gatherit agane alss fast at ane full sea. Then the people gave it over and became hartles, thinking our sea tred and salmound fishing wes liklie to be gone, and noble Abirdene brocht to vtter decay and destruction."

However, the river in a few days swept away the bar and resumed its old course, to the great joy of the burgh. But Spalding joined some fear with his gladness, interpreting the formation of the bar as a token of great impending troubles for both the Aberdeens.

Spalding died about the same time as Charles I. was executed, and we miss his vivid charter style of composition, with redundant superfluous detail.

THOMAS TUCKER'S REPORT ON THE HARBOUR.

In 1656 Thomas Tucker, an official in the service of Cromwell's Government, made a report upon the Customs of the port.

Tucker says of Aberdeen:—

"It is no despisable burgh either for building or largeness, having a very stately market-place, sundry houses

well-built, with a safe harbour for vessels to ride in. But the wideness of the place from the inlet of the sea coming in with a narrow winding gut and beating in store of sand with its waves, hath rendered it somewhat shallow in a great part of it and so less useful of late than formerly. But the inhabitants are remedying this inconvenience by lengthening their quay and bringing it up to a neck of land, which jutting out eastward towards an headland lying before it, makes the coming in so strait (difficult). At the end of which foremost neck of land there is a little village called Footie, and on the other headland another called Torye, and both nigh the harbour's mouth; and lying very near unto the place where the ships usually ride (being forced to keep some distance from the quay because of the shallowness of the water) have given opportunity of much fraud in landing goods privately, but prevented of late by appointing the waiters by turns to watching these two places narrowly when there are any shipping in harbour.

"The trade of this place as generally all over Scotland is inward from Norway, Eastland (Baltic), Holland, and France; and outwards, with salmon and plaiding, commodities caught and made hereabout in greater plenty than any other place of the nation whatsoever. In this port is a Collector, a Checque, and three [Tide] waiters, some of which are still (always) sent into the member ports as often which is but seldom as any opportunity is offered or occasion requires. These are in number five:—Stonehive, Newburgh, Peterhead, Fraserburgh, and Banff."

At this time only nine vessels belonged to Aberdeen; one of 80 tons, one of 70, three of 50, two of 30, and one of 20—total, 310 tons. Fraserburgh had four vessels of 20 tons each, Peterhead one of 20; but no vessels are mentioned as belonging to Stonehaven, Newburgh, or Banff. This report shows the attention which Cromwell paid to the commerce of the country, and the strict collection of the national revenue from Customs.

The embankment running along the south side of the reclaimed area which Tucker mentions as being in progress in 1656 was completed in 1659; but in 1648 the Denburn had been diverted at the Weigh-House from its old course and turned into a new channel for the harbour. It may have been of some service in sweeping out the mud which would have tended to settle in it with the influx of the tide.

A DOCK.

Before 1661 a dock for building and repairing ships had been constructed at Futtie. Modern dry docks with walls of masonry and water-tight gates are expensive and difficult to construct; but the requirements for the small ships of early times were satisfied by an excavation of considerable extent with an entrance just wide enough to admit or let out a ship. The entrance had been filled up with a bank of clay after a ship had been floated in at high tide and the dock had become empty at low water. The dock is shown in the Paterson map in 1746 in much the same place as the modern shipbuilding yards occupy, but it bears little resemblance to a modern graving dock. The etymology of "graving" in this sense has puzzled etymologists hitherto. If we allow ourselves to suppose that this mode of dock-making was introduced into Britain from Germany the word might come from "graben," to excavate; and a graving dock would mean a dock excavated in the side of a harbour, closed when necessary by a bank of clay.

PARSON GORDON ON THE HARBOUR.

In 1661 James Gordon, parson of Rothiemay, published his "Description of Bothe Touns," with a plan of the towns and the district between the Dee and the Don bordering on the sea. It is to him that we owe the description of the mode of forming the extension of the quay from the Weigh-House to near the Church of Futtie, by which a large extent of ground which was overflowed at every tide was dried by the exclusion of the sea. The reclaimed area is now occupied by streets and buildings; but in 1661 Gordon says it was a fertile cornfield, the produce of which had re-imbursed the Town Council. In this reclaimed area the ground is so low that the sewers are below the level of the sea at high water, and the sewage can be discharged only at low water or by being pumped to a higher level, which is done at Clarence Street when necessary. The reclaimed area embraces the Great North of Scotland Railway Company's Goods Station, Commerce Street, Sugarhouse Lane, Water Lane, Mearns Street, James Street, the south half of Marischal Street, and part of the block between it and Weigh-House Square.

It is Gordon who tells of the shipbuilding dock. He says that at the end of the new quay or pier stood the village of Futtie, which extended 400 paces (1000 feet) along the edge of the estuary, and that it was inhabited chiefly by fishermen and mariners. Before it, he says, lay the ships of too deep a draught to go up to the city, and there was a dock for building and repairing ships.

Beyond Futtie lay the Pocraw, the fishing boat haven, and after that came the Blockhouse, and lastly the Sand Ness. The entrance into the harbour, Gordon says, was somewhat dangerous by reason of a sand bed commonly called the bar which crossed the mouth of the harbour, so that no one dared to enter but expert pilots who knew the way and could enter safely with the help of the wind and the tide. Once into the harbour, many and great ships, men-of-war, and merchant ships of the greatest size and burden, lay at Torry in the very channel of the river Dee. Smaller ships could go up to Futtie or by help of the tide they could go up to the city and lie close to the pier, where they could unload their goods and take in their freight. The river mouth was narrow enough naturally, but still more contracted by the Bulwark made of dry stone and great timbers. The harbour at high water looked like a great firth, but at low water it was dry all over except the channels of the Dee and the Denburn. At high water there were some small inches of small worth standing out of the water, upon which were some houses for the salmon fishers, where they prepared and packed salmon for export. They were sent chiefly to France, where Aberdeen salmon were accounted the best in Scotland. They were taken in great abundance, especially at low water.

THE DEE AND THE DENBURN AND THE HARBOUR.

Gordon's plan of Aberdeen includes the estuary of the river, and to him we are indebted for our first sight of the course of the river Dee, the harbour, and the river mouth. In making his survey he used no instruments, but measured distances by walking over the ground and counting the number of steps which he had made. These he reckoned equal to $2\frac{1}{2}$ feet, and on the plan we see a scale of these paces and a boy in a kilt, with a compass in his hand, measuring a distance on the scale. Of course, the plan cannot be quite accurate; but where it can be

tested by measuring the distance between two well-known fixed points and comparing it with that found on the Ordnance Survey Map, it is found to be wonderfully accurate, for short distances at least.

The north bank of the river is shown as 450 yards south from the Shiprow port. In the river we see men catching salmon by a coble and a net. In Torry Harbour are seen ships at anchor a little way from the shore. The only erection seen on the south side of the river is the Bulwark, erected 1607-10, opposite the Sand Ness, to force the river northward at its mouth.

On the north side of the estuary the map shows the Denburn flowing southward through marshy ground, overflowed at every high tide. This area is now occupied by the Joint Station and its surroundings; but the marshy ground extended as far south as to Palmerston Road, and there the Denburn entered the extreme upper end of the Harbour. The Upper Harbour was a belt about 60 yards broad, extending along Guild Street. At Stirling Street it received the Millburn after it had driven the Nether Mill. A recess is shown occupying the site of the first house in Guild Street, and the bottom of Market Street. In excavating the site of the house, in 1907, the keel and other timbers of a small ship were found. This recess was probably the first harbour of Aberdeen, before the quay was built. The waterway extended along Trinity Quay and Regent Quay. North of Regent Quay is the reclaimed ground laid out in rigs to show that it had become corn land. The waterway was further east than Waterloo Quay, going nearly to St Clement's School. Three ships are shown—one on the way down from the quay, one on the way up, and one at anchor at Futtie. Opposite the course of the Dee we see at Poeraw or the fishers' haven (a bight eroded by the impact of the river) a few boats lying moored. The navigation channel is titled The Raick, which means the straight place or fair way. This was one of the town's fishing stations. Salmon had been caught here by coble and net at low water. Farther out in the navigation channel are shown the Stells, where nets were stretched between stakes on land and boats in the river: When the tide began to rise the fishers endeavoured to surround salmon in the bag of the nets and haul them to the river side.

The part of the estuary between the harbour (the Denburn) and the Dee is represented as mostly occupied by muddy flats covered by water, except at low tide; but

there are three grassy islands usually dry, except at high tide. One part which was seldom if ever covered was called "The Witch."

TIDE MILLS.

In 1621 two corn mills were erected somewhere within floodmark, to be driven by the influx and efflux of the tide; but they proved failures. It was also proposed to erect others near the mouth of the river on the south side. There would have been a more powerful current there; but the power would have been intermittent and variable in direction, and they seem to have done no good, if they were erected.

THE WEIGH-HOUSE.

In 1634 a building called the Weigh-House or Pack-House was erected at the lower end of the quay. Here the goods forming the cargo of a ship were weighed and measured by officials called meters. Custom dues for the national revenue were levied here at one time, and also the town dues on food, coals, and building materials. After the abolition of the Petty Customs there was little necessity for maintaining the Weigh-House, and it was removed. Its site is now occupied by the Harbour Office (See "Aberdeen Weekly Journal," 17th May, 1905).

RECLAMATION OF LAND.

In 1623 was begun a great undertaking for the improvement of the harbour, by which a large area, 300 feet broad at its widest and 1000 feet long, was reclaimed from the sea and a great extension of the quay was effected. The Denburn before that time flowed in the line of Virginia Street, and the ground on the south side of the burn was useless for any purpose, being dry at low tide, and covered with water at high tide. It was reclaimed by extending from the lower end of the quay at Weigh-House Square two dry stone walls and filling up the space between them with sand and mud. This material must have been got by digging a new channel to the quay along

the south side of the embankment. The work was done by the labour of the inhabitants themselves, and it was not completed till 1659. When the embankment had been extended to its full length the Denburn was diverted into the new harbour, but in Gordon's time its channel had not been filled up, for he calls it, "A water course running from the Pack-House towards Futtie." It ended in the Powcreek Burn.

DIRECTIONS FOR TAKING THE HARBOUR.

Skene gives minute directions for the benefit of seamen or strangers coming to Aberdeen by sea, which were prepared by desire of the magistrates. The first object to attract their attention would be the Bay of Nigg, with a country church standing in the middle thereof (the old Church of Nigg). Northward of it was the Girdleness or Aberdeenness, which had to be kept at the distance of a long cable's length, or full 600 feet (on account of the Girdle Rock). Passing this danger, two steeple spires (Town House and St Nicholas Church) would be seen, which had to be brought into a line, with the west spire a sail's breadth north of the other, and then the way was straight in. Once in, ships could ride at anchor sheltered from north, west, and south winds; but in entering care had to be taken because there was a bar on which there was barely two feet of water at low tide. At spring tides the depth on the bar was about fifteen feet at high water, but only ten at neap tides. On the left hand of a ship entering there was a beacon (about the shore end of the south breakwater), about a ship's breadth from which there was usually the deepest channel. Skene recommended strangers to signal for a pilot, who could always be had by putting out a *vaiffe* (flag). Off Aberdeen the flowing tide ran from north and by east to south and by west; farther off it was more southerly. A ship entering the harbour from the north could keep inshore till a depth of five fathoms was reached, or with a westerly wind three fathoms.

Inside the harbour is mentioned the large and high house called the Pack-House and also the Weigh-House, with many rooms for merchants' wares. A pleasant walk from the city could be taken along the pier, which led to fields (about Waterloo Station) and further on to the harbour mouth.

THE HARBOUR IN 1746.

In 1746 a plan of Aberdeen was published by G. and W. Paterson, which shows some new features. The infall of the Denburn is farther north than in Gordon's. It shows the ship dock about the place now occupied by the building yards, which have been developed from it; and it shows also the beacon on the south side of the entrance to the harbour. The bulwark is longer; and its eastern extremity curves round to the north to increase the scouring force of the river. The depth of water at high tide is shown in several parts of the harbour. On the bar the depth is marked 13 feet towards the north side and 14 towards the south, which agrees with Skene's statement. Farther in 20 feet is shown at the Sand Ness, then 18, and at Pocra 14. Strangely, 28 feet at low water is shown between the Lower Jetty and Point Law, which must have been produced by a whirling eddy at the meeting of the current at the Denburn coming from the harbour and the current of the Dee. At the Quay Head the depth was 12 feet, but at Shore Brae, well into the channel, there was a depth of 30 feet. This must have been The Pottie where criminals were drowned. The great depth of The Pottie was caused by a projection from the south side.

The course of the river is much the same as in Gordon's plan, straight north and then east, but water is shown as far west as part of the site of the electric works, and there is more water between the harbour and the Dee than Gordon shows.

SMEATON'S WORKS, 1770-1780.

The state of matters in the harbour had not been improving with the lapse of years. The Dee had crept much farther north, and had sent out a small branch to the north, which entered the harbour at the lower end of the long pier. This had reduced the current of the Denburn, and the upper harbour is shown by Taylor's plan, 1773, to have silted up. The waterway is narrowed, and the depth of water shown at the Weigh-House is only 7 feet. Though it increases going down it does not rise to 11 feet till the Dee is reached. A short pier has been formed at Pocra with a view to increase the scour in the harbour mouth, but with apparently little effect. The Dee is now

running north of Point Law, which is on an island between which and Torry harbour flows a small branch of the Dee; but a barrier has been formed across it where it leaves the Dee in order to exclude the stream and thus save Torry harbour from silting up. This part of the estuary has been improved by the change of the course of the river. The harbour of Torry is now in the old bed of the river, and the depth of water is 13 feet. A small pier has been formed on the south side, below the village. It is interesting to note that the Raik and Stell fishings have changed their places, but the names remain. The Stells are now north of Point Law, much farther west than formerly, and the Raik or Fair Way fishings by net and coble are also farther up the river.

In 1682 the Town Council petitioned the Government to grant them a voluntary contribution throughout Scotland because their harbour was becoming useless, which, they said, would be a great national loss. They said this was the first time they had come a-begging and they hoped their request would be granted. It was granted in so far as that they got authority to make the collection; but it does not appear that they ever got any money, and they resolved to do something for themselves.

In 1770 they employed Smeaton, a great canal and harbour engineer, who had reconstructed Eddystone Lighthouse after it had been burned down. He examined the river mouth and reported to the magistrates that the formation of the bar was caused by the agency of the north-east winds on the flat and sandy shore to the north, which extends to Collieston, not quite so far as he supposed. By the great waves raised by these winds the sand was driven southward, but could not pass Girdleness, and therefore it accumulated in the mouth of the Dee, which could be kept open only by the water of the river forcing a passage to the sea.

THE ERECTION OF THE NORTH PIER.

The harbour of Aberdeen was in its natural state in the very worst conceivable place for accommodating any vessels except small fishing boats. Smeaton, however, saw what was necessary to be done to make it a useful harbour; and he recommended that a bulwark should be erected on the north side of the entrance with the twofold object of preventing the sand from the north from getting

into the river mouth and of contracting the width of the river at its mouth so as to increase its scouring power. An Act of Parliament was obtained in 1773 for the erection of a pier on the north side of the harbour entrance and other purposes, and operations were begun in 1775; and the pier was finished in 1781. It is 20 feet wide at the base, and 12 at the top, where it begins, and 16 feet high. But these dimensions proved too slight as it advanced into the sea, and the width at the base was increased to 36 feet and at the top to 24, and the height was raised to 30 feet. The length of the pier was made 1200 feet; but by Smeaton's plan it was intended to be 1400 feet. The end of the pier curved round to the north, gradually expanding in width, and it terminated in a rounded end. A sloping bank was built on the south side.

A great improvement was effected by the new pier, but we have only to look at the shape of the mouth of the entrance to the navigation channel and the place where it began to see that much more was necessary before the making of the entrance to Aberdeen harbour would be perfected. The inroad of sand from the north was greatly prevented, but a bar continued to be formed where the current of the river ceased to be perceptible as the tide rose. The bar was formed partly of sand and gravel brought down by the river, the quantity of which is much greater than is generally imagined; partly it was formed of gravel brought inward by great rollers in easterly gales. On the coast of Egypt there are great salt lakes formed by bars thrown up by the sea in storms.

ABERCROMBIE'S JETTY.

Taylor's plan of Aberdeen and the estuary of the Dee in 1773, before the north pier was built, shows Smeaton's design and the depth of water expected from it. At the extreme end of the pier 13 ft. 9 in. is shown on the south side of the entrance, where the channel was deepest; farther in, 16 ft; in the main part of the channel, 17 ft; in Torry Harbour, 13 ft; in Aberdeen Harbour, 7 ft at the quay, rising to 11 at the junction with the Dee. Milne's plan in 1789, when the pier had been built, shows the same depths. The pier had therefore served one of the purposes expected from it, keeping the harbour mouth open; but in curing one evil another had been

created. The waves of the sea had been let in, and the anchorage inside was not so quiet or safe as it had formerly been. The Town Council was greatly blamed for listening to suggestions from amateur engineers who advised that the new pier should be built farther north than Smeaton proposed, thus widening the navigation channel. To cure this new evil, Smeaton planned a jetty projecting from the new north pier into the channel, and it was executed in 1789 under the superintendence of Abercrombie, a skilful surveyor, whose name it now bears, though at first it was called Smeaton's Jetty after its designer. Small jetties like this which merely divert waves are of little use. The conditions which modern engineering demands for a safe, comfortable harbour are:—first, an entrance in deep water narrowed to the limit of safety by piers strong enough to resist the impact of the heaviest waves and high enough to prevent the top from being deluged with water and to take the energy out of heavy waves by throwing them vertically up; and the other is a large area within the entrance where the waves which cannot be altogether kept out may spread out and dissipate their force.

The author of the “Book of Bon-Accord” sympathised with those who blamed the Town Council for putting the new pier far to the north; but now that the entrance of the harbour has been carried far out and protected by piers it is reckoned a fortunate thing that this was done. Deep water in the navigation channel is now urgently required, and by much dredging a depth approaching 30 feet has been attained. But with increasing depth the solid rock seen on the south side is found extending farther and farther northward, which makes it difficult to increase the depth of the navigation channel.

Though the north pier was completed in 1781 it afterwards sustained great damage in storms, and other Acts of Parliament were obtained in 1795 and 1797 to enable the Town Council to repair and strengthen the pier.

JOHN RENNIE'S PROPOSALS.

The original Harbour Act of 1773 was followed by two subsidiary Acts in 1795 and 1797. The former was merely a continuation of the previous Act, but the latter gave additional powers. Before applying for it the magistrates consulted John Rennie, who planned the London Docks and drained the great marshy district on the Ouse

in England. He recommended bringing into the harbour below Shore Brae a branch channel from the Dee which entered lower down; but he proposed to put a breastwork upon it so that the river water would have some fall in entering the harbour and help to scour out mud. The salmon fishers caught their fish at low tide, and they objected to anything tending to hinder the rapid fall of the river, so this scheme had to be left out of the new Act.

The north pier had been founded on the natural bed of the sea, cleared perhaps of some sand. It had done its work so well that the navigation channel had been scoured out two feet below the foundation of the pier, and a footing of loose stones had been laid down to protect it. These, Rennie said, should be removed, substituting two rows of piles, one close to the pier and the other ten feet off. He said the clay between the rows should be excavated and dressed stones should be put in instead on end.

The upper part of the harbour had been cleaned out by digging out the mud and putting it on lighters at low water and floating them down the harbour at high water. The original quay had been founded on the muddy bottom of the harbour, and the foundation was now laid bare. He proposed to bring forward the quay ten or twelve feet and found a new wall six feet deeper. The Waterloo Quay—not so called then, however—he said should be put back all the way down to the building yards. Lastly, the proposal to have a wet dock should not be attempted in the harbour because the bottom was pure fine sand full of water, and a foundation for a lock would be expensive; therefore, he proposed to form a wet dock at Futtie, $7\frac{1}{2}$ acres in extent, with the surface of the water above the level of the quay. The Canal Act had been passed, and he proposed to fill the dock with water from the Canal. The entrance was to be at the bar, which began at the head of the navigation channel. It does not appear that much of Rennie's advice was followed at the time. His wet dock was too far from the town, and it was feared that it would leak, being on a sandy bottom at a higher elevation than the water in the harbour.

TELFORD'S RECOMMENDATIONS.

In 1802 Thomas Telford was consulted, and he recommended the conversion of the whole harbour—that

is the long, narrow, winding channel extending from Poynerhook to Poera Jetty—into a wet dock, in two divisions, separated by a gate which would be usually open, but which could be shut at spring tides to allow the lower division to scour out the Lower Basin and the navigation channel. In 1805 Mr Jessop was called to inspect and report, which he did, but nothing followed. In 1809 the Town Council again applied to Telford, and he gave in a report and proposals with an estimate, and the magistrates resolved to apply to Parliament next year.

In April, 1810, Telford gave in a more complete scheme, the chief features of which were:—Extension of the North Pier 300 feet, and of the South Pier 300 feet; a lower wet dock 2350 feet in length, about 22 acres, and an upper, 1550 feet, about 11 acres; three graving docks, each for two large ships; altering the course of the Dee; embanking the Inches, and raising the whole above high water; and excluding the Dee from the harbour. His plan was shown in London to Mr Jessop, and approved by him. In spite of opposition from shipowners and shipmasters, who dreaded increased expense, the bill became an Act. The Provost, Mr James Hadden of Persley, got a dinner, at which Alexander Baunerian, one of the opponents of the bill, was present somewhat reluctantly. The dinner bill, he said afterwards was £2 19s 6d per head, and he did not recover from the effects of the dinner for three months!

EXTENSIONS OF THE NORTH PIER.

Mr Telford thought that the most important of the works to be done was the extension of the North Pier. He recommended the appointment of Mr John Gibb as resident engineer, residing in Aberdeen, and he was engaged by the magistrates. In 1811 the North Pier was extended 300 feet, and when work could not be carried on at the pier the workmen were employed in building a wharf wall at Waterloo Quay. This extension of the North Pier gave an increase of depth of three feet, and so well satisfied was everybody that a farther extension was resolved upon; and in 1812 an addition of 450 feet was made, which was extended to 865 feet next year, and completed with a circular head of dressed granite blocks dovetailed together. The whole length of the pier was now 2000 feet, the length of the original head being lost.

The second addition had given three feet more water, and the fourteen feet had before 1810 become twenty feet.

The pier had been founded on sand, and in 1813 in a severe storm the sand was washed out at the sides of the head, leaving them unsupported, but the head stuck together for a few days. At length a breach was made between the head and the pier, and the head fell. It was rebuilt with a better foundation, but it fell again in 1815, and was rebuilt with a long slope into the sea and shorter slopes at the sides. This stood well for several years, but the North Pier head cost £6655 between 1827 and 1831.

THE SOUTH BREAKWATER.

It had been proposed to make a breakwater, not connected with the land at either end, to cover the points of the North and South Piers, but in 1812 at the instigation of Mr Gibb it was commenced by extending it from the south shore in the same direction as it had been originally planned. It was finished in 1815, and it extended 800 feet from the south shore, reaching within 250 feet of the North Pier. The cost of the work was £14,000. This had not been contemplated in the estimate, but the erection of this breakwater rendered the extension of the South Pier unnecessary, which was a great saving, all that was done to the South Pier being replacing with dressed granite the wooden head, destroyed before 1809. The breakwater was constructed of stones quarried at Greyhope Bay, and conveyed by a railway. The stones were tumbled into the sea without dressing or building, the only care taken being to put the larger blocks to the outside. This breakwater was thought unnecessary and in the way of ships entering the harbour after the last extension of the North Pier and the erection of the present South Breakwater. It was, therefore, removed, all but 100 yards at the shore end.

Telford seems to have kept most in view the scouring of the navigation channel by the river, and was unwilling to give up the South Pier; but Gibb, looking more to the safety and comfortable quarters of ships in the harbour, favoured the breakwater as providing a broad space where waves could expand within the pier heads. In this he was supported by Robert Stevenson, the light-house engineer, who said that if he had been consulted by the Harbour Trustees he would have advised them to abandon the

South Pier and construct the breakwater, because when a wave was confined between two piers it would continue to undulate to the very top of the harbour. Mr Alexander Bannerman, an amateur engineer who opposed Telford because he would not adopt his proposals, regarded it as a proof of his ineffable folly that he had allowed the breakwater to take the place of the South Pier.

ABERCROMBIE'S JETTY.

Abercrombie's Jetty was a curved projection from the North Pier, 50 yards long, pointing inwards, designed by Smeaton to divert waves from the North side of the channel and to prevent them from entering the harbour; but after the extension of the North Pier it was removed, as being an obstruction to shipping and to dredging the channel. It was also supposed to cause the formation of a bank in the channel. It was removed in 1820, all but about 60 feet, which was left as a tower for a capstan to be used in hauling in ships when the wind was in the west. Before steam tugs came into use there was considerable difficulty in getting ships up the channel with a strong breeze against them, and it required the aid of men with ropes to get them in.

THE LOWER BASIN.

The place of Abercrombie's Jetty as a protection to the harbour was taken to some extent by the Lower Jetty at the west end of the North Pier. Between it and Poera Jetty is the Lower Basin, where ships drawing much water had usually to discharge a part of their cargo upon lighters. These were punted up to the Pier where Trinity Quay and Regent Quay now are. In the same way ships loading at the Pier had to go down to the Lower Basin before taking in their full cargo, part of which had to be conveyed to them in lighters. Large ships had to discharge part of their cargo in the bay before taking the bar. In 1827-8 a wharf was built at the Lower Basin, extending 200 yards, between Poera Pier and the Lower Jetty.

THE HARBOUR CHANNEL.

The harbour, being naturally only the channel of the Denburn though the tide flowed and ebbed in it, was very narrow, not exceeding 50 yards in width at the quay head and 100 yards at Point Law. It did not, therefore, require a great expenditure of labour to make some improvement upon it. At first this was done by spade work and lighters; but after the navigation channel had been deepened by a steam dredger which was procured after 1810 it was used in the harbour, and so efficient did it prove that in a short time the foundations of the piers were out of the water at low tide, and they were constantly falling and needing rebuilding. This mending and patching up continued till 1827, when new wharf walls began to be made at Trinity; but they were built 30 or 40 feet in front of the old quay to have a broad road between the houses and the water. The walls were founded on piles, which afterwards enabled the harbour to be dredged to a considerable depth without endangering the walls. The walls were next extended downwards to Commerce Street and upwards to Poynernoon.

WATERLOO AND REGENT QUAYS.

Waterloo Quay wall, begun in 1811, continued to be extended upwards, requiring making up at the back. In 1834 the whole north-east and north sides of the harbour had been wharfed except a small portion necessary to join Waterloo Quay and Regent Quay. Before this was done it was seen by the Canal Company that it would be for their interest to connect the Canal basin with the harbour. This required a sea lock to pass barges into and out of the harbour, which enabled them to go alongside ships with grain and to take in coals and lime.

It was part of the harbour improvement scheme that the Inches should be made up far enough to be above the level of the highest spring tides, and to shut up all water ways between the Dee and the harbour. Of these there were two, one coming in about Commerce Street, and another farther west. The former took off a large quantity of the river water when the tide began to ebb, and the salmon fishers had to be compounded with before it could be shut up. The other was valued by the brick-

makers at Clayhills, because by it they could get coals brought to the works either by the Dee, or by the harbour at spring tides. To satisfy them the pier was carried as far as Poynternook, with a channel alongside.

There is always in a town where building operations are going on a quantity of earth and rubbish to dispose of. Mr Gibb was too provident a man not to turn this to account. He saw that earth would be useful on the Inches, and he made a wooden bridge across the harbour at Shore Brae to let carts pass over to the Inches. The bridge had been easily constructed by driving piles into the channel and laying planks on their tops. Shore Brae was chosen because it was far up the harbour, and Market Street was not then in existence. A bridge had been planned to be made at Marischal Street, but things were not yet ready for its construction.

SEWERS.

The harbour was the cesspool of the town, and there were incessant complaints about the effluvium from the mud when the tide was low. The Denburn entered the harbour at its upper end, near Marywell Street, and the Millburn entered at Guild Street, both heavily charged with sewage. A sewer beginning at Trinity Quay ran along Regent Quay and, joining the Powcreek Burn, which had really become a sewer, entered the harbour at the top of Waterloo Quay. This sewer, quite dry and not far below the level of the quay, was seen in 1909 in making a track for Sewage Pipes coming down Shore Brae. In 1811, under the powers of the Act of 1810, a sewer was formed along the east side of Waterloo Quay to convey the sewage from Trinity Quay and the Powcreek Burn to the lower end of Waterloo Quay, where it entered the harbour. An outlet for overflow in time of rain was, however, left at the head of Waterloo Quay at the old place of exit.

MANAGEMENT.

For a long time when any improvement had to be made in the harbour, or when the entrance had to be cleared, the magistrates called on the citizens to turn out and do the work themselves. By the Acts of 1773, 1795, 1797, the management was left with the Town Council, to

whom the harbour belonged. But when the Act of 1810 was first proposed the political party calling themselves Radical Reformers insisted on two-thirds of the managers being men chosen by the citizens, which the Town Council were not at that time. The magistrates would not agree to this, but proposed the appointment under the Act of seven auditors, with power of controlling to some extent the actions of the magistrates. In spite of the opposition of the Radicals, the Town Council's bill passed into law.

In another Act, passed in 1813 to amend the former Act, the same controlling body was retained. In 1822 the magistrates wished to have a new Act for the improvement of the harbour. Again the Radicals demanded that the citizens, who would have to pay the dues on goods imported and exported, and the shipping dues, should have the management of the harbour. The magistrates were anxious to conciliate them and agreed to admit men outside the Town Council to a large extent; but the Radicals would not be satisfied with less than a majority and successfully opposed the passing of the bill.

THE ACT OF 1829.

In 1829 a new Act of Parliament was obtained repealing and consolidating all former Acts. The new Act was to endure for 21 years, but it was enacted that everything to be done under it should be completed within five years, except that the course of the river might be altered after the expiry of the five years, if deemed necessary. The management was committed to nine members of the Town Council, five burgesses of Guild, and one member of the Incorporated Trades. The objects of the Act were to cleanse, deepen, and scour the harbour; to exclude from it the polluted Denburn and Millburn; to make a spill-water channel on the south side of the Dee to hasten its fall after high tide, and thereafter to close up channels from the Dee entering the harbour at high tide. Power was given to raise £200,000 to carry out the works sanctioned by the Act and to pay a debt of £113,000, consisting of £30,000 taken over in 1810 from previous Acts, and £83,000 additional incurred under the Act of 1810. Under the powers of this Act were completed the quay extending 1900 yards from the lower end of Waterloo Quay to Poynernoonk, which was not near the modern Poynernoonk Road, but to the north of the line of

Marywell Street, on the south side of the Denburn when it turned east. Its site is outside the south end of the Joint Station arched building. Regent Bridge was also erected, a stone and iron structure 200 feet long resting on two end piers and two in the water. It gave access to the south side of the harbour, where Provost Blaikie's Quay, a wooden wharf for lime ships, was constructed. Enormous quantities of lime were used as manure at this time, and the quay for the lime vessels was 1200 to 1300 feet long, opposite the angle where Waterloo and Regent Quays meet.

THE FROST AND FLOOD OF 1831.

In February, 1831, during a severe frost, the Pot above the Craiglug was frozen over. A thaw came on the 16th and melted the snow on the hills, causing a great flood in the river, which burst the ice barrier and swept it before it. The Inch Dyke (about the north-west corner of Albert Basin) resisted the ice, but both above and below it the river swept over the Inches into the harbour. A great deal of water and ice entered the harbour by the Back Burn at Poynerhook, meeting with some obstruction at the wooden bridge at Shore Brae. So great was the force of the current that three vessels pulled out their mooring posts and were swept along till they were stopped by two large steamships which had broken loose and had grounded, entirely blocking up the harbour. The old dredger lying farther down was carried out to sea and must have sunk as it was never seen again.

In the Upper Harbour the current ran strongly between ships and the pier, and though the foundation was deeply piled, with a platform for the wall, it sunk six feet, and 150 feet had to be taken down and rebuilt. In the end of 1831 the Raik Dyke was removed from the head of the channel which branched off from the river and flowed past Torry on the south side of Point Law. This hastened the fall of the river after flood tide, and let the Raik fishers begin work sooner. Then the embanking of the Inches on the south side was completed, and the Back Burn connecting the river and the harbour at high water at Poynerhook was closed up.

The interior of the harbour was greatly improved by dredging out the silt and mud which had accumulated in it. Market Street was not formed till 1842; but west of the line of it Trinity Quay had been extended in a

double curve to Poynerook, the first concave curve facing the south-east and the second the north-west. This part of the harbour allowed ships with coals to approach the Gasworks, the site of which was in the open space on the east of the Joint Station. The extreme upper end accommodated the Clayhills Brick Works, giving access to ships bringing coals for the kilns and to barges and lighters taking away bricks and drain pipes. The Clayhills were high steep banks of alluvial clay on the site of Wellington Road, between Portland Street and Affleck Street. The clay banks were so high that sandmartins built in them.

"THE OLD OAK TREE."

Much excavation had to be made in the inner part of the Upper Harbour alongside the Quay, and in 1832 a large oak tree was found within 150 yards of the Trades Hospital, which was near the bottom of Exchange Street. It was within a few inches of the surface and some people remembered seeing part of a branch of it projecting above the ground in the edge of the Trinity Inch. When taken out it was found to be 20ft 2in. in circumference, and the trunk was 6ft 6in. in length from the root to the first branch, which was 23ft 6in. long, and 13ft 10in. in circumference. Part of another limb was 9ft 7in. in circumference and 3ft long. The tree was lying horizontally from south-east to north-west. It was not much decayed, and did not seem to have lain very long where it was found. There were anciently many oak trees in the forest of Birse, and as that parish is liable to heavy rains, causing floods in the Feugh when the wind is in the south-east in autumn, the tree may have come from Birse. A south-east wind would have prevented it from going out to sea and would have blown it into the north-west corner of the estuary of the Dee.

There were anciently many oaks in some parts of Aberdeenshire; but the oak rarely produces ripe acorns in the north of Scotland, and most likely they had been grown from acorns imported from England. The introduction of the oak into Scotland may be ascribed either to Margaret, wife of Malcolm Canmore, an English lady, or to David I., her youngest son, who had been much in England before he became King.

The oak tree was set up in the Inches, where it stood till it was found to be somewhat in the way. It suffered

from a fire in an adjoining shipyard and was removed to the Duthie Park.

THE EXCAVATION OF VICTORIA DOCK.

The Lower Jetty at the south end of Pocra Quay was removed in 1832. Apparently no useful purpose was served by its removal, but the stones forming it were good and were utilised in building part of Waterloo Quay. The greatest improvement effected on the harbour under the Act of 1829 was the excavation of Victoria Dock (though it did not bear that name till afterwards) and the making up of the Inches. Before 1829 the harbour near the head of Waterloo Quay was only 60 yards wide, and its south side was where the north edge of the dock is. Under the Act of 1829 the dock was excavated, the quay was completed in 1834, and the old harbour was filled up. From Market Street to Church Street the whole of the old harbour is now covered by the quays. Below Church Street the area of the old harbour was in the space now covered by the east end of the dock and the tidal harbour. These works cost £122,200, and as the working powers of the Act expired in 1834 there was neither time nor money to do anything at the entrance of the harbour or to attempt the formation of a wet dock.

MR WALKER'S PROPOSALS.

In 1837, when there were still thirteen years of the Act to run, there being a clamant demand for the immediate completion of the harbour by the formation of a wet dock, the Harbour Trustees resolved to have the harbour surveyed and examined by an engineer of eminence and experience. Mr James Walker, civil engineer, London, was selected to examine and report upon the subject of a wet dock. He came to Aberdeen in January, 1838, and after examining plans, sections, and reports in the possession of the Trustees, and hearing the opinions and wishes of all concerned he gave in a plan and report in April of the same year.

He recommended the formation of a dock in the harbour by a lock at Lime Street, with a gate at Regent Bridge forming an inner dock above it. About 160 yards of the upper end of the harbour was to be cut off and filled up;

but the remainder was to be widened, and new quays were to be formed on the south and east sides; the tidal harbour was to be greatly extended by prolonging Provost Blaikie's Quay to the eastward; the river was to be diverted southward; and a new spill water channel was to be formed on the south side of the river to prevent opposition from the salmon fishers. A bill was brought into Parliament in 1839 to carry out Mr Walker's proposals; but it unexpectedly met with opposition from shopkeepers on account of the increasing shore dues proposed to be levied on their goods, from the shipping companies, and from Messrs Hogarth, Reid, and Pirie, who proposed a dock in the river with a new channel for it. The bill, moreover, was opposed in Committee by the City member of Parliament, who had agreed to introduce it and had promised to give his best aid and assistance in carrying it through Parliament. The decision of the Committee was unanimously against the bill, and it was lost, mainly apparently on the ground that due time had not been given to the inhabitants to consider it maturely. Nothing was done for three years.

THE ACT OF 1843—MR ABERNETHY'S PROPOSALS.

Notwithstanding the rejection of the bill of 1839 there was still a great desire for a wet dock, and in 1842 Provost Thomas Blaikie called a public meeting of the citizens to obtain their sanction to a bill for the improvement of the harbour by the construction of a wet dock and the extension of the quays, and the removal of the nuisance caused by the infall of sewers into the harbour. A large meeting was held, at which a Committee was appointed to consider schemes and plans and to prepare a new Harbour Bill. Several schemes and plans were considered:—three by Mr James Walker, London; four by Mr Alexander Gibb, engineer, Aberdeen; one by Mr William Leslie, Aberdeen; and two by Mr James Abernethy, resident harbour engineer, Aberdeen. A plan by Mr Abernethy was adopted, which showed the upper part of the harbour converted into a wet dock by a lock at the end of York Place. By it ships could pass in and out of the dock at any state of the tide, and alongside of it there was another lock with a single gate by which ships of any length could easily pass in and out at high tide. The dock was to be divided into two parts by Regent Bridge and a pier

extending southward from the bridge. The upper part was shown to be 550 feet wide, with its north and south sides parallel; and the south-west corner of Victoria Dock was to be extended till its south side came into line with the south side of the Upper Dock. Two jetties were proposed to give more berths for ships, one extending southward into the harbour at Sugarhouse Lane, and the other at Market Street. The west end of the old harbour was to be filled up, and the new Upper Dock was not to go beyond Stirling Street.

The bill passed, and operations were begun at once, but the first contractors failed after making some progress, and they abandoned the contract. The Aberdeen Railway Act was passed in 1844, and as the station was planned to be between the Market and Guild Street it was seen that the Railway Company would need the whole of the Upper Harbour west of the line of Market Street, so instead of the jetty a quay was made. The other jetty, at Sugarhouse Lane, was also relinquished. The Upper Dock was widened out at its west end and narrowed at its east end; the pier extending south from Regent Bridge was abandoned; and the extension of the south-west corner of Victoria Dock was also given up, so that the south side of the two docks is not parallel to Regent Quay as was proposed in the plan sanctioned by Parliament. The plan adopted was probably cheaper than Abernethy's, but not so shapely in appearance.

THE CONSTRUCTION OF THE QUAYS.

The works sanctioned by the Act were carried out under the superintendence of Mr Abernethy, and they were completed in 1850. First came the construction of two entrances into the dock, one by a double lock with three gates of two leaves each, and another with a single two-leaved gate; and both entrances were furnished with swinging bridges. The sills or soles of the entrances were made to give a depth of 21 feet at high water of mean spring tides; but the sill of the south entrance was afterwards lowered five feet. Provost Blaikie's Quay was extended downward 200 yards, reaching to the dock gates. Waterloo Quay began to be built in 1811 at the lower end, and 560 feet of it had to come down and be rebuilt in such a way that it would not leak. From the dock gates to Church Street Abernethy found

the depth of the harbour at high water of mean spring tides to be 17 feet, and below water he found by boring, sand, 12 feet; sandy clay, 4 feet; soil and vegetable matter (peat-moss), 2 feet; and gravel beneath it. At Regent Bridge he found 6 feet of moss at 12 feet below the bed of the harbour, where the depth of water was 15 feet; and there the peat-moss was found in excavating the foundations of the piers of the new bridge. With such a backing to the first built part of Waterloo Quay there was a great danger of leakage at neap tides, without the possibility of replacing it for several days so that ships of great draught might have grounded. Market Quay was built; the whole area of the wet docks was deepened by dredging, so as to give 18 feet of water; rails were laid round the docks; and besides the old sewer, made along the east side of Waterloo Quay in 1811 to take up the sewerage of the Powcreek open drain, a new sewer was laid from Poynternook along the quays to the tidal harbour below the dock gates. In constructing this sewer in 1844 the old original quay wall of unknown age, but certainly older than 1400, was found opposite the Weigh-House, which stood on the west side of Weigh-House Square. In 1848 Queen Victoria and Prince Albert visited Aberdeen, coming from London by sea. The north entrance of the dock was completed, but the south entrance was closed by a cofferdam. The Royal yacht entered the dock and was moored at the north end of Waterloo Quay, where a wooden arch with three ports was erected. At this time there was not another dock in the British Empire where the Royal yacht could have been moored alongside a quay, and where the Queen could have landed without the aid of a boat. The cost of all these works amounted to £145,250.

THE HARBOUR AND THE RAILWAY.

The resolution of the Aberdeen Railway Company to abandon the site on the north side of Guild Street, which they had at first selected for their station, for a larger and more commodious site on the south side required new Acts of Parliament, both for the Harbour Commissioners to sell part of their ground and for the railway company to buy it. The railway company wished to acquire not only the Inner Doek, but the part of the Inches west of Regent Bridge. The Harbour Commissioners, however, resolved to retain for themselves ground

sufficient for the formation of a quay in the line of Market Street and a row of houses on the west side of the quay, and also the whole of the ground lying east of the line of the new quay.

THE LIME BASIN AND THE CANAL BASIN.

The dust of calcined limestone is injurious to the clothing and the persons of those on whom it lights, and ships freighted with lime were ordained to discharge their cargoes at a place apart from other ships. The part of the harbour assigned to them was what is now covered by the south end of Waterloo Railway Station, lying west of Church Street. When the Canal Company was formed in 1797 it was settled that the canal was to terminate beside the Lime Basin, and a lime shed was erected for storing lime discharged from ships, where it would be near the canal barges which conveyed it into the interior of the county. The Canal Basin was on the north-west of the Lime Basin, both lying between the ends of Commerce Street and Canal Terrace; but the south end of the terrace has been absorbed into the railway station. Both the Lime Basin and the Canal Basin were originally within the harbour area, being in the wide mouth of the Poweek Burn; but though they were in close proximity to one another, there was no connection between them.

The Lime Basin was merely a nook of the harbour, quite open to it on the west side. The Canal Basin was an excavation with a road between it and the harbour, made on material excavated from the basin. The water in the Canal Basin was fresh, and only its overflow entered the harbour. That it was originally part of the harbour is shown by Kennedy's "Annals," wherein there is mention of ships' anchors being found when it was excavated. The south end of Waterloo Quay began to be formed in 1811, and when it was extended to its full length northward and joined to Regent Quay the Lime Basin was cut off and rendered useless for ships. For their use a wooden wharf was formed at Provost Blaikie's Quay, on the other side of the harbour, well towards the upper end, to be near Regent Bridge, so as to shorten the cartage of lime between the ships and the Canal. In 1834 the Canal was connected with the harbour by a sea lock, and in 1835 the old Lime Basin was filled up and afterwards built upon.

In 1844 the Great North of Scotland Railway Act was passed, and in view of this an agreement was entered into between the Canal Company and the Railway Company that after the passing of the Act the Canal should be worked for the Railway Company and transferred to them when its bed was required for the construction of the railway. It was given up in 1853, and the Canal Basin and the site of the old Lime Basin were required for the formation of Waterloo Railway Station.

After the formation of the dock-gates in 1848 and the subsequent dredging of the Victoria Dock no new works requiring the borrowing of more money were undertaken for a long time; but the penalty for making a harbour in the mouth of a river had constantly to be paid in the shape of unceasing dredging of sand and gravel brought down by the Dee. This is deposited where the outflow of the river is met by the influx of the tide. When the current of the river is brought to rest the sand and gravel which roll along its bed sink to the bottom and form a firm, compact bed which can be removed only by dredging.

THE ACT OF 1868.

In 1867 the great increase of the harbour revenue induced the Commissioners to think of undertaking new works for the improvement of the harbour; and Messrs Hawkshaw and Abernethy, consulting engineers, were employed to report on the best means of improving the harbour. Following upon their report a bill was introduced into Parliament, which became an Act in 1868.

This Act repealed and consolidated the Acts of 1843 and 1844. It vested the management of the harbour in a Commission composed of the Town Council and twelve elected members, with a duration of 55 years. In 1923 the harbour reverts to the Town Council. The Commissioners hold a statutory meeting on the first Monday of the year, and monthly meetings thereafter. The limits of Aberdeen Harbour include the mouths of the Don and Dee, and the intermediate sea coast.

The purposes of the Act are defined to be:—the extension of the North Pier to the extent of 166 yards; a new pier or breakwater 420 yards south-east of the then existing breakwater, which had been erected under the superintendence of Telford; the improvement and deepen-

ing of the navigation channel along its whole length from the pier heads to a point 50 yards west of the lower jetty; the removal of 50 yards of the north end of the South Breakwater; the removal of Telford's South Pier on the river side; the improvement, deepening, and widening of a navigation channel between the lower jetty and the dock-gates; the removal of 160 yards of the point of the Inches; the diversion of the Dee, beginning at Wellington Bridge and terminating 120 yards west of the lower jetty; the reclamation and filling up of the old bed of the river Dee; and the widening of Trinity Quay east of Market Street.

MR DYCE CAY'S WORKS.

The Commission was empowered to borrow to the extent of £450,000, which covered the debt on the harbour at the commencement of the Act. Mr William Dyce Cay, the resident harbour engineer, was appointed to carry out the works sanctioned by the Act, which were to be begun early in 1869, and Messrs Hawkshaw and Abernethy were consulted as to the order in which they should be executed. In 1868 the revenue of the harbour was £32,500, the highest yet reached; and the debt amounted to £180,000, a third of which was for property purchased. £7332 was given to reduce the debt.

THE NEW SOUTH BREAKWATER.

The first work undertaken was the erection of the new South Breakwater, which was begun in July, 1869. As long as the work could be carried on without going under water the foundation was prepared by blasting, and the pier was formed of liquid concrete in frames; but when the work had to be carried on in the sea a staging was formed by means of tall Oregon spars which cost £55 each. So long as the foundation of the pier was on rock, iron shoes to receive the lower ends of the spars were bolted to the rock. The spars were set up vertically and fastened together by horizontal and diagonal bars. At the top of the spars, at 30 feet above the sea, a staging was erected with rails for waggons to convey blocks of concrete to be lowered into position. When deep water was reached, huge bags of concrete in a semi-liquid state were dropped into their proper places by means of a

vessel having in its bottom hinged platforms which could be let down when four rods projecting upwards from the vessel came under other four projecting downwards from the staging. The upper part of the breakwater was formed of blocks of concrete made at Greyhope and conveyed on rails to the staging.

When the new breakwater had made some progress the stones of the old breakwater and the South Pier were used as "hearting." A railway was laid along the edge of the sea to the Bay of Nigg, where sand and gravel and loose stones were got to help to form the breakwater. Sand was also got from a quarry on the hill of Balnagask. The work was carried on during summer only, and everything movable was removed during winter. The breakwater extends 1050 feet from high-water mark, and 700 feet from low-water mark of ordinary spring tides. It cost £78,000, an unusually large proportion of which went for preliminary expenses and works and purposes other than the cost of the materials used in construction and the wages of workmen employed at the breakwater.

When the breakwater was finished the spars of the staging were sawn off at the level of the top of the pier. Though they were of the finest quality of wood that could be obtained—such spars could not be obtained now—they did not last long, and only the upper parts remained sound. Large holes were bored in the spars with augers, and liquid cement was poured in to take the place of the decayed wood.

In 1870 the widening of Trinity Quay was ordered. This was a much-needed improvement, as the roadway between the houses and the water was very narrow. The cost of the whole work was £4900, the greater part of which went for paving and other purposes than the building of the quay wall.

THE DIVERSION OF THE RIVER.

The diversion of the River Dee was effected under a contract which amounted to nearly £60,000. Borings made in the channel formed for the river yielded fresh water, but it rose and fell in harmony with the rise and fall of the tide. The whole area of the estuary of the Dee, and also the bed of the river for a good way up, had been at one time a bed of fine laminated clay resting upon sand. Water from the river enters below the upper

edge of the clay, and passing through the sand comes out at the lower edge of the clay, where the Navigation Channel begins. As the tide rises the under current of water is stopped and rises in bores, but it runs away again when the tide falls. About 200 yards below Craiglug Bridge, where there was anciently a ferry, dressed sandstone blocks were found. They could hardly have been the remains of a bridge over the river, but they might have been in a pier projecting into the river, at which passengers and horses embarked and disembarked. Farther down beams of oak were found, still connected together. These might have formed part of a wooden bridge, formed with planks resting on piles driven into the river bed. Such a bridge would easily have been constructed—one in Switzerland is carried across a broad lake—but it would have been in danger from ice and snow coming down the river. This might have been the bridge for the upholding of which John Crab made a bequest. The diversion of the river cost £37,000, and as the salmon fishers were tenacious of their rights and obstructed the operations of the Commissioners an Act of Parliament was obtained in 1871, empowering the Commissioners to purchase the fishings at a price to be fixed by arbiters. £38,000 was paid for the fishings in the sea within the new breakwater and for those in the river up to the Chain Bridge at Craiglug. The material excavated from the new channel for the river was employed in filling up the old channel, and by it and the dredgings from the Victoria Dock a large extent of ground was reclaimed. Some material was obtained also from the point of the Iuches, which was removed to facilitate the entrance of large ships into the dock.

The Navigation Channel was cleared of all obstructions by the removal of the greater part of the old breakwater and the South Pier, only the end of it being left. Both these works had cost much money and had been regarded as great improvements when they were made. In dredging the Navigation Channel, cairns built up around posts were found and removed, and the channel was widened out to 300 feet. The posts had been used in warping ships into the harbour against the wind.

THE NORTH PIER.

The completion of the new South Breakwater in 1873 allowed the extension of the North Pier to be begun in

1874. It was formed of stones and gravel brought by rail from the Bay of Nigg, and sand carted from the Hill of Balnagask. All had to be transported across the river. It was built on sand above glacial stony clay, in 15 feet of water at low tide. The lower part was made with bags of semi-liquid concrete, each 50 tons in weight, deposited from a well in a steam hopper barge. The base course was formed of bags laid longitudinally, to the width of 120 feet ; the second was formed of bags laid across these ; the third of bags laid longitudinally, to the width of 55 feet ; and the fourth of bags 40 feet long, stretched across the whole width of the pier, from outside to outside. It was brought up in this way within two feet of the surface of the water at low tide, and upon this foundation blocks of concrete, 600 tons in weight, were formed in frames. A parapet, $7\frac{1}{2}$ feet, was built on the north side of the pier, and another, not so high, on the south edge ; and a lighthouse was erected at the eastern extremity.

The extension of the North Pier was completed in October, 1877. The length stated in the Act of 1868 was 166 yards, and though while the work was in progress a further extension of 500 yards was contemplated several considerations led to the abandonment of this proposal. The South Breakwater was planned to be 1200 feet in length, but it was curtailed and made only 1050 to make the harbour more easily taken by ships coming from the south. It was thought that to extend the North Pier would alter the aspect of the entrance to the harbour materially from the Parliamentary plans which had been prepared for the Act of 1868 by the eminent engineers Hawkshaw and Abernethy. Moreover, there remained at the command of the Harbour Commission only £42,000 of the £293,000 authorised by the Act of 1868, and it was thought best to defer further operations till a new Act should be obtained. The annual revenue of the harbour had risen to £36,000, and it was believed that it was safe to undertake some desirable new works.

The herring fishing began at Aberdeen in 1836 at the instigation of the fishermen of the Cove and Portlethen. Some provision for accommodating herring boats had been made at Point Law, and it was proposed to do more for the promotion of this industry when there was more money at the command of the Harbour Board.

THE ACT OF 1879.

No new works in connection with the outer entrance to the harbour were contemplated by this Act; but the channel had been so much deepened that the platform at the base of the head of the old North Pier had become a source of danger to ships entering the harbour, and it had to be removed. At the same time something had to be done to secure the foundation of the old part of the North Pier. By much dredging the channel had been lowered below the base of the pier, and it was in danger of being undermined by the rush of waves inward along the south face of the wall. Large blocks of stones had been laid down at the foot of the wall to protect it. These were now removed, and a row of piles was driven into the hard clay at some distance from the wall. Then an excavation was made between the piling and the wall, and this was filled with concrete.

But the chief works carried out by the money borrowed under the Act were done within the harbour. Mr William Smith, the resident harbour engineer, proposed to remove Regent Bridge to the end of Commerce Street; to continue Provost Jamieson's Quay eastward to join Provost Blaikie's Quay; to project a jetty 650 feet into the Upper Dock from Market Quay; and to lay a double line of railway along the quays. Some of these recommendations, however, were not carried out. Trinity Quay was narrow, and its foundation was only 7 feet above the sill of the dock gate. Smith proposed to found a new wall 50 feet from the old quay, making it 120 feet wide, and to found it 20 feet deeper than the old wall. Another great undertaking was the filling up of the old bed of the Dee. It would have been desirable to utilise for this purpose the whole of the dredgings from the docks and the navigation channel, but this would have greatly hindered the work of dredging, and most of the excavated matter was carried out to sea and dropped in deep water. The enormous quantity of 22,000 tons of refuse had to be removed every year from the town, and it was arranged to deposit a considerable part of this in the old bed of the Dee. By September, 1880, the whole of the old bed of the river, west of Market Street, had been filled up and laid out in streets or roads, and the part east of Market Street was formed into a tidal harbour, called Albert Basin. The name Commercial Road was given to the new

road formed along the northern bank of this basin, where the Fish Market is now. It was also resolved to form a quay, to be called Provost Jamieson's Quay, along the south side of the Upper Dock. The cost was estimated at £11,000 but it ultimately amounted to £15,000.

THE GRAVING DOCK.

A graving dock had long been wanted, and in 1881 it was settled that it should be formed towards the eastern end of Albert Basin, alongside Commercial Road, the estimated cost being £36,000, but before it was completed it cost £48,000. It was found that a bed of water-tight clay, with gravel beneath it, extends over the site of the dock to the depth of two or three feet below the level of the sill. The graving dock was specified to be 550 feet long at the bottom and 569 at the top; 48 feet wide at the bottom and 74 feet at the top; 20 feet deep below high water level, and 5 feet more above it. It was formed of concrete, with granite facings in some parts. The dock was opened in January, 1885, and the event was celebrated with a great dinner and much speaking and congratulation. It has, however, proved a miserable failure, and the grave of a great sum of money. After undergoing a process of reconstruction it has been given up as incurable. It is still in use, but heavy expense will not be incurred with it in future. A small floating dock of iron, in section like the letter U, with one side shortened, was procured soon after the formation of the graving dock, and a large iron floating dock of the same sort has been procured.

THE MANIPULATION OF CONCRETE.

Concrete is a substance formed of cement mixed with sand and gravel, wetted and allowed to set. Its quality depends upon the goodness of the cement, the quantity of it used in proportion to the sand and gravel, and the degree of wetness of the mass after mixing. The quality of the cement depends upon the proportions of its principal ingredients—clay and carbonate of lime in the form of chalk or limestone—the temperature at which they are calcined, the length of time this process lasts, and the fineness of the grinding of the calcined materials. The quantity of sulphur in the coals used to calcine the clay

and the lime also affects the cement. All these things are better understood now than they were in 1881-1884, when the Graving Dock was made; but even yet the formation of concrete work seems to be conducted very much by rule of thumb. If we look at the pavements of the city some of them are cracked, indicating that the concrete had been too wet; some are crumbling, an indication that it had been too dry or that too much sand had been used. If a shower begins to fall one piece of the pavement grows wet instantly, which is a good sign; another remains dry, which shows that it is too porous.

In forming the concrete for the Graving Dock two mistakes seem to have been made. Firstly, the concrete in the outside walls, which had to be deposited through water, was allowed to set to some extent before being put in the place it was to occupy; and, secondly, too much sand was used. The consequence of these mistakes was that the concrete was soft and porous, and when the water was 20 feet higher outside than the floor of the dock it was forced through the concrete. This brought in a train of evils. All salts of lime being more or less soluble some of the lime of the cement was dissolved out, and it became only a question of time how long it would take to dissolve the whole and make the concrete an incoherent mass. In cement, however fine the grinding may be, some particles remain unslaked when it is wetted, and if they afterwards get water they slake and expand, and thereby disintegrate the mass. There must also be bad results from the passage of sea water containing chlorides and sulphates of sodium and magnesium through concrete containing silicates of lime and alumina and also some sulphate of lime due to calcining the components of the cement with coal containing sulphide of iron. When these various salts come in contact, especially in water under pressure, chemical changes on a greater or less scale are sure to follow with consequent expansion and disintegration. Soluble substances will be produced, and under the pressure of 20 feet of water from the outside these will be forced inwards, leaving the concrete more and more disintegrated.

THE DOCK GATES.

Another important work contemplated by the Act of 1879 was the renewal of the dock gates. They had

suffered injury from marine animals on the outside, where the water was purer than within the dock ; and from tear and wear at the hinges it had become difficult to open and close them. New gates to be actuated by hydraulic pressure were provided in 1884. By these ships can be let out and in at the dock at any time whenever there is sufficient water for them outside. When first erected the lock forming the northern entrance had three gates, the middle one dividing it into two. This was intended to save water when a small ship passed through. Afterwards it was thought that the saving of water was not of great importance, and the middle gate was removed when the gates were renewed. The southern entrance with only one gate is opened shortly before high water and closed again when the water has fallen a few feet. In order to admit to the dock ships of great draught of water the sill of the south entrance was lowered till it gave a depth of 26 feet at high water of ordinary spring tides, and a new gate worked by hydraulic machinery was provided.

PROVOST MATTHEWS' QUAY.

In 1885 a new quay was built, beginning at the south entrance to the dock and extending round the point of the Inches and up the north side of Albert Basin to the Graving Dock. It affords a convenient wharf for passenger steamers, enabling them to enter and leave the harbour without delay. It had become a custom to name quays after the Provosts in whose time they were erected, and the new quay was called Provost Matthews' Quay.

BUILDINGS.

One great advantage expected from a wet dock was that the decks of ships would never be below nor much above the level of the quays, and that thus the discharge and loading of cargoes would be facilitated. This belief was realised for a time, but there has been a steady increase in the dimensions of ships, and when a deeply-laden ship has discharged part of her cargo she rises so far above the quay that the discharge of the remainder becomes very inconvenient. To remedy this lofty sheds are now erected alongside the quays, and by steam or electric power goods can be lifted out of ships and taken into the upper floors of

the sheds by day or by night, from which they are lowered into carts on the ground as required. A heavy expenditure was incurred for such sheds on the quays under the Act of 1879.

In 1885 the old, quaint-looking Weigh-House, where goods were stored and measured and examined for Customs duties, was taken down to furnish a site for a harbour office ; but the Weigh-House was some distance back from the quay, whereas the harbour office comes up to the same line as the other houses. It cost £9000, which had to be paid out of surplus revenue.

The introduction of a new way of catching fish by trawling necessitated the formation of a quay for the accommodation of the ships engaged in this industry, and a place for laying out the fish which they caught where they could be seen by purchasers. These were provided in Albert Basin, on the north side, in 1888. About the same time sprang up the importation at Aberdeen of store cattle from Canada. For the accommodation of this trade a wharf was erected at Poera Jetty in 1886, and wooden buildings were provided, in which to keep the cattle for a few days and afterwards dispose of them by auction. The sales were patronised by farmers from Aberdeen, Banff, and Kincardine and they brought an increase of revenue to the Harbour Board, but an apprehension arose that imported foreign cattle might bring into the country infections cattle diseases, which led to the prohibition of the importation of live cattle unless for slaughter at the port of landing. This rendered useless the cattle sheds and auction hall at Poera, and they had to be removed.

The new South Breakwater was built of concrete, and, like the Graving Dock, it has not altogether answered the expectations formed of it when it was designed. By the impact of stones dashed against it in storms by heavy waves great holes were broken out on the east side, and every year repairs were called for. The white streaks and spots on the west side show that water is passing through the pier and dissolving out the lime in the concrete. The water may come through from the east side, driven into cracks by the tremendous waves which dash against it in storms, or it may percolate through from the top, which is often wet. In either case the loss of lime due to chemical reactions is tending to the disintegration of the breakwater. In 1887 repairs on the breakwater cost £1000.

BORROWING POWERS—THE ACT OF 1899.

In 1895 a new Act of Parliament was obtained by which the borrowing powers of the Harbour Commissioners were augmented by £50,075, bringing them up to £535,000 from the commencement in 1780. Since then £1,129,953 has been spent on the harbour, of which £410,346 has been borrowed and £719,607 has been provided from surplus revenue.

In 1899 another Act was obtained increasing the borrowing powers to £735,000, the additional £200,000 being needed for the following purposes mentioned in the Act:—

1. Enlargement and reconstruction of the Graving Dock, and the construction of a pontoon Dock.
2. Deepening and dredging the Navigation Channel.
3. Deepening and dredging Albert Basin, the Tidal Harbour, Victoria Dock, and the Upper Dock.
4. Widening and reconstructing Regent Bridge.
5. Embanking and constructing wharves on the Dee.
6. Extension of Albert Quay on the south side of Albert Basin.
7. Improvement of Pocra Harbour and Point Law.
8. Construction of new quays and widening and strengthening existing quays.
9. Erection of goods sheds, workshops, and other buildings.
10. A new sea lock for the wet dock.
11. Electric supply for power and light.

The yearly revenue of the harbour at this time amounted to £68,000 and the ordinary expenditure to £62,000, which left a surplus of £6,000. Large sums have been spent at various times on the purchase of ground and buildings near the harbour and on the reclamation of new ground and the erection of buildings, and the Harbour Board derives a large part of its revenue from rents of houses and lands.

RECENT IMPROVEMENTS.

Under the powers conferred by the Act of 1899 the old Regent Bridge was removed and a new and wider bridge has taken its place, which is opened and closed by electric power. It was completed in 1905. Part of Point Law has

been removed and a wharf has been erected on the north side of the channel of the Dee, on the south side of the point. Much dredging has been done between the dock gates and the pierheads. The sills of the two gates are 22 feet and 26 feet, respectively, below high water, and the depth between the pierheads is now 29 feet. Sand and gravel and some shells, called *Solen siliqua*, are driven in during storms to a distance of 300 yards from the entrance, and they form a bar, which has to be removed by dredging.

Before the harbour improvements began in 1773, and even for many years after, the whole estuary of the Dee was covered at high water. This required such a volume of water that, as soon as the tide began to rise, the current of the river was arrested and the sea began to flow in, which ordinarily caused a scour in the harbour mouth when it flowed out. This state of matters has been completely changed by the deepening and widening of the navigation channel and the formation of the wet dock and the embankment of the Inches. There is less influx of sea water at the bottom, and there is a steady flow outward of the warm, light river-water at the surface at all states of the tide. When the tide begins to rise, sea-water gently comes along the bottom of the channel without arresting the outward flow of the river till Point Law is reached, where the depth of the river rapidly diminishes. Here the stream of sand and gravel incessantly rolling along the bed of the river is arrested and a bank is formed which must be removed by dredging, and there is now no scour in the navigation channel.

NEW PROPOSALS.

Foreseeing the necessity of enlarging the accommodation for shipping the Harbour Commissioners spent a large sum in the purchase of land on the south side of the Dee for the formation of new docks. The dimensions of ships are increasing, and they wish to deepen the entrance channel and some parts of the harbour to 30 feet. This requires more money and new powers, and they obtained a Provisional Order, titled the Aberdeen Harbour Order, 1907, authorising them to borrow £300,000 additional for the execution of new works, comprehending :—securing the foundations of the North Pier; improvement of the Upper Dock by deepening, reconstructing the quays, and

extension southward; widening Waterloo Quay and Provost Blaikie's Quay; removal of the Graving Dock; construction of floating docks; wharves at Point Law and Albert Quay; wharves at the Fish Market; dockisation of the River Dee; reconstruction of the harbour railways; the purchase of locomotive engines; and the purchase of land.

When deepening the Navigation Channel by dredging began the first obstacle met with was loose boulders which had been dropped by the Dee glacier as it melted on entering the sea. These were lifted and removed, and dredging went on till another difficulty was encountered. It was found that solid rock extends northward from the Torry side under the Channel. For a time it was possible to remove upstanding points and decayed parts of the rock by dredging, and a depth of 27 feet was obtained by this means; but the deeper the dredging was carried the further the rocky area was found to extend northward and eastward. It is at present known to extend 400 feet from east to west, and in some places nearly as far as to the North Pier. Beyond it rock is found at the depth of 100 feet under the beach.

The increasing size of ships coming to Aberdeen has made it desirable to attain a depth of 30 feet in the entrance channel of the harbour, and this cannot be got by dredging. Hitherto the removal of submarine rock in harbours has been done by boring a row of holes, charging them with explosives, and firing them off simultaneously by electricity. At Aberdeen another method of breaking up solid rock has been adopted. A small ship has been furnished with an iron cylinder weighing 26 tons, with a steel pointed head. This is raised vertically and dropped on the rock several times in succession on the same place. In a short time the rock is broken up to the depth of three feet and then the ship is shifted to another place. The apparatus does its work efficiently and economically, and after a depth of 30 feet is obtained all over the Channel an effort may be made to reach 33 feet.

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